WH-MOVEMENT, LICENSING AND THE LOCALITY OF FEATURE-CHECKING

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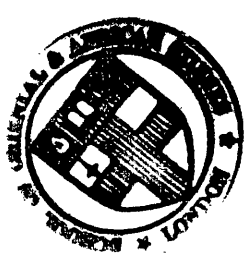

ABSTRACT

This thesis is a cross-linguistic examination of the syntactic mechanisms which licence *wh*-phrases, and of the implications of *wh*-licencing for other dependency-types with similar licencing requirements.

In chapter 1 a wide variety of evidence is presented that *wh*-phrases occurring in situ at Spell-Out do not undergo any raising at LF. In chapter 2, arguing that *wh*-movement essentially occurs to satisfy a purely formal licencing requirement on *wh*-phrases, identified as *wh*-feature-checking, data from Hindi, Iraqi Arabic(IA) and various East European languages then show that it is *wh*-features carried by all *wh*-phrases rather than any on a +Q Comp which require checking, and that (*wh*)feature-checking is not restricted to taking place solely within the strict locality of Spec-head/head-adjoined configurations but must in fact be possible 'long-distance' and within larger domains, this possibility ultimately allowing for a linguistic model in which Spell-Out is identical with LF. Movement is then suggested to occur for two essential reasons: i) to trigger an ambiguous potential licencing head as a licencor for features of a particular type, and ii) in order that an element occurs within the licencing domain of its checking-head. Chapter 3 extends these proposals to Partial (*Wh*-)Movement constructions in German and Hungarian and examines how purely functional *wh*-expletive elements may alter the licencing locality associated with Comp. Chapter 4 considers n-word licencing in French, Italian and West Flemish, and argues for non-local checking of *neg*-features. Other significant properties of n-word constructions then lead to further conclusions concerning the nature of movement and its relation to licencing.

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For my mother, my father,
and for Lily

Chapter One

Wh In Situ and the LF Movement Hypothesis

Introduction

The central theme of this dissertation is a fresh examination of the syntactic licensing conditions affecting *wh-phrases* across languages, interrogative elements such as *where, who, what, how* etc, and how the study of such dependencies can be shown to reveal other more general properties of the internal organisation of the language faculty. Within the Government and Binding Framework initiated in Chomsky (1981) it has long been suggested that wh-phrases are licensed via a relation to some clause-peripheral X^0 position in which the interrogative nature of a clause is specified, standardly referred to as a +Q Comp/C^0. In many languages this type of obligatory dependency is analyzed as giving rise to movement between the position in which a wh-phrase is understood to be base-generated and the Specifier of the +Q C^0, as for example in English:

(1) What$_i$ did you see t_i?

For a variety of reasons and theoretical argumentation it has further been claimed that in languages where wh-phrases may occur audibly *in situ* in non-SpecCP positions, the dependency between such wh-elements and a +Q Comp will also result in movement, this taking place *covertly* and without its effects receiving phonetic interpretation. Thus Chinese 2 and the English multiple wh-question 4 will at some point in their syntactic derivation give rise to an encoding as indicated in 3 and 5 :

(2) Ta shuo shenme?
he say what
What did he say?

(3) [shenme$_i$ [ta shuo t_i]]

(4) Who$_i$ did he give t_i what?

(5) [what$_k$ who$_i$ did [he give t_i t_k]]

Such proposals have important consequences for the construction of potential models of natural language, essentially claiming that there is a level of syntactic representation beyond that which might be argued to characterize audible forms like 2 and 4 . In the GB framework in particular this has led to the adoption of a 'T-Model' with four basic levels of representation - D-Structure derived directly from the lexicon, S-Structure the result of applications of movement to D-Structure, PF the phonetic interpretation of S-Structure, and LF formed from S-Structure via further operations of movement. In this chapter we argue that dependencies between wh-elements and a +Q Comp position need *not* in fact necessarily be established via any movement algorithm and that wh-phrases occurring in situ, as in 2 and 4 , may remain and be interpreted in such positions throughout the derivation without the need to undergo covert LF raising to a +Q C^0. In subsequent chapters we will further suggest that in a broad range of languages there is actually good evidence to indicate that wh-phrases *must* indeed be licensed by S-Structure/Spell-Out, hence often in non-SpecCP positions. If such a view is correct then wh-in-situ phenomena can significantly no longer be taken as supportive of and calling for the existence of a syntactic level of LF in which elements may occur in positions non-isomorphic to those of S-Structure/Spell-Out. Given the centrally important role the case of wh-in-situ has had in the motivation of LF, one may therefore begin to question whether such a level of derivation does indeed exist in the form proposed, and whether a model

with S-Structure/Spell-Out as LF should not perhaps be assumed instead. This theme will be taken up and returned to frequently during the chapters to come.

Here we first of all consider in brief what types of theoretical arguments and evidence have been given as justification for the claim that wh-phrases in situ at PF undergo covert LF raising to a +Q Comp. Highlighting the serious locality problem that wh-phrases may often occur in situ in configurations which do not allow for extraction (so that hypothetical LF raising would not appear to be subject to the same constraints as those affecting overt movement) we proceed to argue for a non-covert movement analysis of wh-in-situ presenting a wide variety of cross-linguistic evidence as support for such an approach. Returning to the original motivations for LF wh-raising noted in earlier sections we then attempt to show that the phenomena relevant to these arguments may in fact receive explanation in ways which do not presume any covert wh-movement and which are hence consistent with general proposals outlined in the chapter.

1.0 Arguments for LF Wh-Movement

1.1 Wh-Movement as the construction of an input form to Interpretation.

The occurrence of *overt* wh-movement in many languages has often been argued to be a consequence of certain inherent logical properties of wh-phrases interacting with constraints on acceptable input forms to interpretation. Noting that wh-questions such as (6) below may appear to bear striking resemblance to the logical representation they could be given within Predicate Calculus, as e.g. in (7a) or (7b), it is suggested that partial logico-semantic representations which will serve as direct inputs to general processes of interpretation need already be constructed within the syntactic component:

(6) [Which car]$_i$ did John buy t_i?

(7a) For which x, x is a car, is it the case that John bought x?

(7b) ? x_i [x_i a car] John bought x_i

It is argued that raising of the wh-phrase in 6 will give rise to an operator-variable structure in which the wh-element which functions as an operator, the N' (or NP) car encodes its restriction, and the trace left behind by movement receives interpretation as a variable ranging over car-valued entities just as in the corresponding logical representations. In such a view then it is proposed that tokens of language will be accepted by central reasoning processes only when presented in specific formats, with all operator-variable relations made explicit among other things.

If *overt* wh-raising therefore takes place essentially in order to build a structure of a type necessary for interpretation, it is argued that such an operation must be taken to affect all wh-phrases across all languages at some point within any derivation; assuming that constraints imposed by central cognitive processes on acceptable input forms are not subject to variation and that wh-phrases constitute a single logical type with the same properties regardless of whatever language is considered, this should always force wh-raising to a +Q Comp position prior to interpretation. Where *overt* wh-movement is not observed to take place (as e.g. in Chinese) it is suggested one must conclude that such raising occurs *covertly* (yet still within the syntactic component), and before a string is fed off for interpretation, hence for sentences 2 and 4 this resulting in the representations 3 and 5 .

Such a hypothesis is however clearly in need of further independent support before it can be accepted as conclusive of covert wh-movement. One could convincingly argue that overt wh-movement is in fact triggered for reasons quite other than those suggested above, perhaps as a functional assist in parsing to identify a clause as a wh-question as suggested in Cheng 1991. There are also other instances of raising (such as e.g. *focus*) where it cannot be argued that movement to a clause-initial position takes place in order to build an operator-variable structure necessary for interpretation, so there must be other possible motivations available for this kind of movement. Furthermore, were there to be a constraint on input forms to interpretation that the scope of all logical operators need be made explicit in some format parallel to Predicate Calculus, one might

expect that elements such as Tense and (Sentential) Negation would raise to clause-peripheral positions in similar fashion, yet this does not appear to be the case.

We therefore now turn to consider what other types of primary evidence and argumentation have been put forward as support and motivation for the LF movement hypothesis, this including Superiority, Crossover and various Locality phenomena. In all these cases it can be suggested that the assumption that there is covert wh-movement will automatically allow one to explain a range of ungrammatical examples via principles and constraints already justified and necessary for quite independent phenomena.

1.2 Wh in Situ and Strong Crossover

It has been argued that the unacceptability of 'Strong Crossover' sentences such as 8 below may be accounted for in terms of the Binding Theory. If an empty category trace left by wh-movement is taken to be a null R-expression, c-command of such a trace by a co-referential NP will result in a Principle C violation:

(8) *Who$_i$ did he$_i$ say t_i had bought the Porsche?

Similar unacceptability is also observed to be present in cases where no overt wh-movement takes place and an *in situ* wh-phrase is c-commanded by a co-referential NP:

(9) *When did he$_i$ say Mary helped who$_i$?

In order to account for the impossibility of co-reference between the pronoun and the wh-phrase in 9 it is proposed that covert wh-movement will apply to 9 resulting in a [-P,-A] empty category subject to Principle C, which hence disallows c-command by the co-indexed pronoun he. Sentences such as 8 and 9 are thus both accounted for in a parallel way and by means of the independently-justified

Binding Theory.

1.3 Superiority

A second argument which has been standardly taken to indicate that there is LF movement of wh-phrases in situ relates to those ungrammatical sentence types known as Superiority Violations, illustrated in 10 - 12 :

(10) Who$_i$ t_i hid what?
(11) *What$_i$ did who hide t_i?
(12) *What$_i$ did Mary fix t_i how?

It has been suggested that if one does make the assumption that in situ wh-phrases undergo LF raising (and also that a Comp to which multiple wh-phrases have raised may only be indexed in a certain way) then the unacceptability of 11 and 12 can be straightforwardly ruled out in terms of the ECP, hence again via a principle already motivated on the basis of other phenomena. After LF raising in 11 and 12 , the subject and adjunct wh-phrases will not be able to c-command and antecedent-govern their traces and so give rise to an ECP violation; in 10 by way of contrast, the trace of the object wh-phrase raised at LF will be lexically-governed by the verb and no violation will arise.

1.4 Pesetsky 1987 and D-Linking.

Pesetsky 1987 suggests that certain restrictions on the possible interpretation of wh-phrases occurring in situ within wh-islands may be accounted for if one assumes that at least a sub-set of wh-elements are forced to undergo raising to a +Q Comp at LF, with this raising being constrained by Subjacency in the same way that overt wh-movement is. It is first argued that the in situ object wh-phrases in examples such as 13 and 14 may receive interpretation as being directly questioned only if they are understood as questioning the reference of

elements of a restricted set whose full membership is known to both speaker and hearer - D(iscourse)-Linked in his terms:

(13) Who remembers where we bought what/which book?

(14) Who wants to know where Bush talked about what/which point?

Pesetsky proposes that D-Linked wh-phrases need not undergo raising for their interpretation but may be bound in situ by any c-commanding +Q Comp. Such non-movement binding of a wh-phrase will not be subject to constraints on movement and so where the object wh-phrases in 13 and 14 are taken to be D-Linked they consequently may be bound by the +Q Comp in the higher clause (despite this lying exterior to the lower wh-island CP), this resulting in an interpretation of the wh-phrases being directly questioned. Because the interrogative scope of a *non*-D-Linked what in 13-14 does however seem to be restricted to the +Q Comp of the lower clause, this is taken to indicate that non-D-Linked wh-phrases *are* required to raise to a +Q Comp for interpretation; LF movement of a non-D-Linked what to the higher +Q Comp in 13-14 will not be possible as it would violate Subjacency, just as overt extraction from wh-islands does:

(15) *What$_i$ does he want to know where Bush said t_i?

Non-D-Linked what in 13-14 may therefore only raise to the lower +Q Comp and be interpreted as *in*directly questioned.

Contrasts in the scope of in situ D-Linked and Non-D-Linked wh-phrases relative to higher +Q Comps are thus accounted for in terms of Subjacency constraining the obligatory application of LF movement to certain types of wh-phrase.

1.5 Wh-adjuncts and extraction islands.

A fourth argument often presented in favour of an LF-movement approach to wh-phrases occurring in situ at PF concerns the distribution of wh-adjuncts and extraction islands. Huang 1982 notes that elements such as *weishenme-why* and *zenme-how* in Chinese may not occur within island configurations when they relate to a +Q Comp exterior to the containing island, as for example in 16 where *weishenme* is inside a Complex NP:

(16) *[[Ta weishenme xie] de shu] zui you-yisi ne?
he why write Rel book most interesting Q
Intended: What is the reason x, such that a book that he wrote for reason x is the most interesting?

Huang suggests that the fact that wh-adjuncts may not occur in such environments (with scope at a higher +Q C) is good indication that wh-phrases in Chinese must undergo covert LF raising to a +Q Comp. In examples like 16 this will give rise to a violation of the ECP when antecedent-government of the trace left by extraction is blocked by the barrierhood of the CNP.

On the basis of this kind of locality phenomena and a variety of other theoretical argumentation such as that presented immediately above it has therefore been proposed that wh-phrases occurring in situ at PF must establish some relation to a +Q Comp, and that importantly the creation of such a dependency would appear to bear the hallmarks of parallel dependencies established via overt wh-*movement*. A range of restrictions on the distribution of in situ wh-phrases may receive direct and simple explanation in terms of principles already claimed to constrain applications of movement if it is presumed that the relation of an in situ wh-phrase to a +Q C is indeed the result of such a *movement* operation taking place, rather than just co-indexation of the wh-phrase and Comp. As such hypothetical raising-to-Comp is not perceivable in the PF

form of a string, it must consequently be assumed to take place *after* the point of S-Structure and therefore that the syntactic derivation of a string does *not* necessarily terminate at S-Structure but may continue on until some further stage. One thus is led to posit a level of LF in addition to any other derivational levels assumed, LF having the properties of being formed within the syntactic component via applications of movement fully parallel to those occurring in the overt syntax and being constrained by clear syntactic principles such as the ECP and the Binding Theory.

Although there is hence both certain theoretical and empirical motivation to support the LF wh-movement hypothesis, we will argue against this that a view in which wh-phrases occurring in situ at PF do not undergo any form of covert raising is actually to be preferred. We will show that a whole array of theoretical argumentation and empirical data relating to a number of quite unrelated languages provides strong evidence that where wh-phrases do not raise to a +Q Comp by S-Structure/Spell-Out, they are not forced to do so (and indeed may not do so) at any point in the syntax. Having claimed that wh-phrases in certain languages may remain in situ throughout a derivation we will then in a later section return to the arguments given for LF wh-movement reviewed above and suggest that these and other arguments relating to scope, selection and absorption may be accounted for without the need to posit covert wh-raising.

2.0 Against LF Wh-Movement

If wh-phrases in situ at PF were to be subject to an obligatory raising operation taking place at LF then a certain parallelism in behaviour is expected between such wh-phrases and other elements which are observed to undergo *overt* raising. If such parallelism does not exist, or if it cannot be motivated by independent properties of PF (assuming now the Minimalist view that constraints may not be stated relative to any level of S-Structure), then this would seem to constitute direct evidence against the LF raising approach and for an analysis in which wh-phrases appear in their in situ positions throughout a derivation. The arguments

and data we present below fall into three basic types 1) instances where the actual *movement* operation of pre- and post-Spell-out elements would appear to be constrained in different ways, 2) cases where the interpretative possibilities open to in situ and overtly moved wh-items are not the same, and 3) instances where an LF movement analysis would have to admit that there are conditions on an independent level of S-structure (which again must be avoided if one adopts the Minimalist Framework of Chomsky 1993/95).

2.1 Non-parallelism with regard to movement

2.11 Locality Problems

The first case we consider here is a highly important one relating directly back to section 1.5 and the argument that LF wh-movement may be motivated on the grounds that the distribution of wh-phrases appears sensitive to extraction islands. Although Huang 1982 has argued that the unacceptability of wh-adjuncts in island configurations may be accounted for by assuming LF wh-movement constrained by the ECP, serious problems for the LF movement hypothesis arise when one considers the status of Subjacency relative to such movement. The general empirical justification for assuming LF raising of wh-phrases in situ at PF is that such movement and the configurations it would give rise to appear to be subject to the same syntactic principles that constrain applications of movement and their output forms in the overt syntax (e.g. the ECP and Binding Theory). LF is then conceived of as a purely syntactic level of derivation, the result of a continuous derivational process taking place between a point at which items are inserted from the lexicon and that at which the derivation is fed off for interpretation. If covert applications of move-α are instances of the same syntactic operation that affects items moved prior to Spell-out (or S-structure in pre-Minimalist models) then one should expect that it be constrained in the same way as overt movement. However, as Huang himself has shown, this does not appear to be the case; argument wh-phrases in Chinese (and other languages, e.g

Japanese, English multiple wh-questions) may licitly appear in situ in positions from which overt extraction is quite unacceptable. Examples 17 and 18 below show that relative clauses in Chinese constitute islands for both topicalisation and relativisation, arguably due to movement giving rise to such constructions; this contrasts directly with the fact that the occurrence of argument wh-phrases within such configurations is perfectly acceptable:

(17) *Zhangsan$_i$, wo mai-le [[t$_i$ xie]de shu].
Zhangsan I buy-Asp write DE book
Zhangsan, I bought the book that (he) wrote.

(18) *[Wo mai-le [[t$_i$ xie]de shu]de neige-ren$_i$] lai-le.
I buy-Asp write DE book DE that-person come-Asp
The person who I bought the book that (he) wrote came.

(19) Ni mai-le [[*shei* xie]de shu]?
you buy-Asp who write book
Who is the x such that you bought books that x wrote?

The same contrast between topicalisation/relativisation and the possibility of wh in situ is seen with sentential subjects:

(20) ??Nei-ge-ren$_i$, [[Lisi da-le t$_i$] shi wo hen bu gaoxing]
that-person Lisi hit-Asp make I very not happy
That person, that Lisi hit (him) made me not too happy.

(21) ??[[Lisi da-le t$_i$] shi wo hen bu gaoxing] de nei-ge-ren$_i$
Lisi hit-Asp make I very not happy DE that person
The man that [Lisi hitting (him)] made me not too happy..

(22) [[Lisi da-le *shei*] shi ni hen bu gaoxing?
Lisi hit-Asp who make you very not happy
Who did that Lisi hit (him) make you not too happy?

Furthermore, although Chinese may seem to allow a certain amount of wh-topicalisation as in 23 (from Tsai 1991), such topicalisation is not possible at all when it would take place out of an island (thus compare movement of a wh-phrase in 24 with wh-in-situ in 19 above):

(23) $Shei_i$, ni renwei t_i zui xihuan Lisi?
who you think most like Lisi
Who do you think most likes Lisi?

(24) *$Shei_i$ ni mai-le [[t_i xie] de shu]?
who you buy write DE book
Who is such that you read a book that he wrote?

If in situ wh-phrases in Chinese were to undergo raising to a +Q Comp at a level of LF this would clearly not appear to be subject to the same locality constraints as affect other overt movement relations. Despite Huang's analysis of the restrictions on wh-adjuncts in extraction islands as requiring the assumption of LF wh-movement constrained by the ECP, the overwhelming general observation repeatedly made across a large number of languages is that the distribution of wh-elements in situ does *not* appear to be constrained by any strict notion of locality. It therefore may seem unlikely that the relation between an in situ wh-phrase and a +Q Comp is actually one of movement. Later we will also argue that there is reason to be very cautious in what one attempts to conclude from the wh-adjunct data; firstly the noted ban on occurrence in situ in islands does not in fact generalize to all wh-adjuncts but essentially is a restriction just on *weishenme 'why'* and *zenme manner* (but <u>not</u> *means) 'how'*, and secondly there is evidence that it cannot relate to the ECP, hence is not necessarily a restriction on any extraction

process.

Faced with the conflict that certain evidence *may* seem to point towards LF movement of wh-in-situ elements but that considerations of Subjacency appear to indicate otherwise, two types of position have been adopted. The first, taken up by Huang and various others, is to suggest that certain constraints on movement such as Subjacency do *not* in fact apply uniformly throughout a derivation - Huang 1982 simply proposes that while movement taking place prior to S-structure *is* constrained by Subjacency, that occurring between S-structure and LF is not. In much work carried out prior to the advent of the Minimalist framework it has not been uncommon to claim that certain syntactic principles may apply discretely at particular points/levels within a derivation, e.g. the Binding Theory, satisfaction of the Case Filter etc. However, there would seem to be no obvious reason why Subjacency should only apply to those applications of movement taking place before a certain point within a single derivation; if Subjacency is a *general* syntactic constraint applying 'blindly' to any input form then it should not matter where in a derivation such an input form is presented. The problem becomes increasingly more acute when considered from a Minimalist perspective where reference to S-structure as an independent representational level should not be possible at all. In Minimalism the attempt is made to justify the fact that certain operations must apply at particular points within a derivation in terms of properties of the interface levels PF and LF. However, there seems to be no plausible property of PF which would explain why applications of move(-α) occurring prior to Spell-out should have to obey strict locality principles while those taking place post-Spell-out need not, given also that other locality principles such as Shortest Move are argued to apply quite uniformly throughout the derivation and the assumption explicitly made by Chomsky that: 'computational principles are uniform throughout (the derivation to LF)' p.8.

A second possibility is to suggest that LF movement of in situ wh-phrases may be different from overt wh-raising in certain critical ways, either that it may be effected in various *indirect* ways as e.g. in Nishigauchi's 1986 Pied Piping

proposal, or that it may make use of options only available at LF, vis Fiengo et al 1988 where the potential for wh-phrases to extract from islands at LF is linked to and dependent upon QR operations taking place at this level. It is not our purpose here to present in-depth criticisms of all such proposals for reasons of limited space, but earlier critiques have indeed shown there to be severely problematic aspects inherent in each (see for example Fiengo et al 1988 on LF Pied Piping, Simpson 1994 on Fiengo et al 1988 and also on Aoun & Li 1991). We believe a far simpler and more rewarding line of approach avoiding the problems and complicated LF mechanics seemingly necessary in any analysis which attempts to reconcile the occurrence of wh-in-situ in islands with LF wh-movement is instead to assume that LF wh-movement is not necessary, and then attempt to provide alternative accounts of those phenomena which originally motivated such proposals, especially if other supporting evidence can be found to indicate that *no* wh-raising does in fact occur (as will be presented below). In chapter 2 we will suggest that wh-movement where attested overtly does not in fact take place in order to build operator-variable structures universally necessary for the interpretation of wh-phrases, that such elements may indeed be interpreted in situ, and hence that the *general* lack of locality effects with wh-in-situ is simply a function of movement to a +Q Comp not being forced on wh-phrases in languages like Chinese at any level of derivation.

2.12 Antecedent Contained Deletion (1)

The claim that Subjacency might in fact be a constraint *only* on pre-S-structure/pre-Spell-out instances of movement, which Huang (1982), Watanabe (1991) and others have made in order to maintain an LF raising analysis of wh-phrases in situ, would in fact also seem to be refuted by evidence from Antecedent Contained Deletion (ACD). Standard island effects noted to occur with ACD indicate that Subjacency constrains not only pure movement relations but also other dependencies encoded at LF which cannot be the result of (pre-Spell-Out) movement.

May 1985 suggests that expressions involving ellipsis are interpreted at LF via a reconstruction process in which elided material may be copied from material and structure linguistically present elsewhere in a sentence. In the case of VP ellipsis, it is claimed that a phonetically spelt-out VP will be copied into a second empty VP position:

(25) S-structure: John has [$_{VP}$gone], and Bill has [$_{VP}$ *e*] too.
LF: John has [$_{VP}$gone], and Bill has [$_{VP}$gone] too.

VP ellipsis structures do however appear to be subject to a well-formedness constraint that neither verb may c-command the other:

(26) *John [$_{VP}$likes the man who Bill does [$_{VP}$]].

May has argued that in such instances of 'antecedent contained deletion' copying of a potential antecedent VP into the elided VP position will ultimately lead to an infinite interpretative regress, with the result that ellipsis resolution will not in fact be possible. Despite this, sentences parallel to 26 are quite interpretable where the antecedent VP contains a quantificational object, as in 26 and 27 :

(26) John [$_{VP}$likes *everyone* who Bill does [$_{VP}$]].
(27) Joan [$_{VP}$read *all the books* that Sue did [$_{VP}$]].

May suggests that if such quantificational NPs induce QR at LF, then the infinite regress facing reconstruction of the elided VP will actually be avoided. After QR of the NP, an antecedent VP will be available for copying which technically no longer contains the elided VP itself, but just a verb and the trace of the QR'ed NP:

(28) [everyone who Bill does [$_{VP2}$]]$_i$ [$_{IP}$John [$_{VP1}$likes t_i]]

From 28 VP1 will be copied into the elided position of VP2, and give rise to a

form that may be successfully interpreted:

(29) [everyone who Bill does [$_{VP}$ like t_i]$_i$ [John likes t_i]

Critically relevant to the locality issue under discussion is that ACD structures have been noted (e.g. Haik 1987) to be subject to the same island constraints that affect overt movement:

(30) *John read everything which Mary believes the report that he did [$_{VP}$].
(31) *John read everything which Mary wonders why he did [$_{VP}$].
(32) *John read everything which$_i$ Mary believes the report that he read t_i
(33) *John read everything which$_i$ Mary wonders why he read t_i

However, under standard analyses, no movement actually takes place in elliptical structures of this type, the dependency between the relative pronoun and an embedded co-indexed variable arising *only at LF* after reconstruction/copying of a VP antecedent into the empty VP position has occurred. Therefore, in order to rule out 30 and 31 as Subjacency violations parallel to 32 and 33, one is forced to say that Subjacency may also be a constraint on *LF representations*. If Subjacency does then constrain operator-variable dependencies formed at LF, it is clearly predicted that those resulting from LF wh-movement of wh-phrases in situ as hypothesized by Huang 1982 etc should also be subject to Subjacency, and in the case of dependencies formed between a +Q Comp and a position within an island configuration this should result in ungrammaticality. The fact that argument wh-phrases may freely occur in situ in islands in Chinese, Japanese etc therefore suggests that no operator-variable dependency of the movement type is in fact formed at LF. Furthermore it seems that Subjacency should actually be taken as a wider constraint, applying to all dependencies where an element is structurally displaced from the position in which it is base-generated *or* interpreted/construed, this perhaps irrespective of the level or way the dependency arises. Other relations between structurally discrete positions within a tree which

do not involve such direct displacement of elements from their place of interpretation may not perhaps be constrained by intervening structure in the same way, as for example with certain co-indexation relations (e.g interpretation of pronouns as bound variables).

It might be objected that if one adopts a somewhat different analysis of ACD it may still be possible to maintain that Subjacency is a constraint on purely S-Structure movement relations and therefore that wh-phrases may occur within islands due to *LF* wh-movement *not* being constrained by such locality. One could suggest that movement does in fact take place prior to S-Structure in ACD structures, perhaps with deletion of elements within VP at PF as opposed to LF VP-copying. Lappin 1992 has proposed that in cases of ACD such as 34, regular pre-S-Structure movement does indeed occur between the object position and SpecCP of the relative clause, this being constrained by Subjacency as all (overt) movement is. At some point prior to PF, operator raising will be followed by simple deletion of the phonetic content of the verb in the lower VP:

(34) John read everything [O_i that Mary did [$_{VP}$e t_i]]

However if such an approach is adopted, one then is faced with the problem of why it is apparently not possible for a resumptive pronoun to occur in place of the trace left by relativization, especially when this potentially might rescue ACD structures which involve island violations. Although resumptive pronouns in English do not sit well in questions and relative clauses, examples can be constructed in which it should be possible to have a resumptive pronoun instead of the hypothesized trace. Parasitic Gap structures in English *do* allow for the lexicalization of the trace which is presumed to arise from movement of an empty operator, and such a strategy can save otherwise unacceptable island violations, as in 35 :

(35) This is the book which$_i$ Max read t_i [O_i before hearing the claim that Lucy read *t_i/it$_i$].

However, whereas ACD is indeed possible with parasitic gap constructions (example 36), island violations may *not* be saved by the use of a resumptive pronoun (37 :

(36) This is the book which$_i$ Max read t_i [O_i before finding out that Sue did t_i]

(37) This is the book which$_i$ Max read t_i [O_i before hearing the claim that Sue did *t_i/*it_i].

Hence just where one should be able to base-generate a resumptive pronoun and co-index it with an operator in Comp, this appears not to be possible. Such a result is both unexpected and unaccounted for in a movement analysis of ACD and VP ellipsis in general; if all that is base-generated empty or deleted in the 'elided' VP is the V^0 position then it should be possible to base-generate a (resumptive) pronoun in its object position. However, if the entire VP is base-generated empty and only reconstructed at LF, there clearly is a principled reason why resumptive pronouns may not appear, access to the lexicon no longer being available at this point.[1]

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[1] Lappin furthermore assumes that other cases of VP ellipsis which do not involve an operator are resolved in essentially the same way as ACD; that is, rather than base-generating an entirely empty VP constituent and reconstructing it from some antecedent VP at LF, the empty VP has internal structure, with empty verb and argument positions:

(i) John read Ulysses, and Bill did [$_{VP}$ [$_{V'}$ [$_V$ e_1] e_2]] too.

Thus in (i) e_1 represents an empty verb and e_2 an empty NP object. If empty terminal nodes corresponding to all the various sub-elements of the VP which will be copied/reconstructed are discretely base-generated (rather than base-generating a single empty VP node) it should be possible to lexicalize an argument position with a pronoun rather than generate it empty. In this case the pronoun would not be a resumptive pronoun because it is not associated with a co-indexed binding operator; it therefore should not give rise to any of the awkwardness which may arise with operator-resumptive pronouns links in English. However, it is not possible to have a lexicalized form here either, again suggesting that the VP is base-generated empty as one unit without separate empty terminal nodes:

(ii) *John read Ulysses, and Bill did [$_{VP}$ [$_{V'}$ [$_V$ *e*] it]] too.
(iii) *Bob read War and Peace, but Sam didn't it.
(iv) *I might read Barriers, and so might she it.

Thus in sum it must be admitted that Subjacency constrains both S-structure and LF dependencies which involve some kind of structural displacement of elements from the positions in which they are interpreted. Consequently LF raising of in situ wh-phrases is also expected be subject to Subjacency; as such elements may generally occur in all island environments, this strongly seems to suggest they do not undergo covert LF movement to Comp.

2.13 Quechua, Chinese, the ECP and LF Movement

In addition to the above arguments concerning Subjacency, data taken from Ancash Quechua and Chinese itself provide *ECP*-related evidence that in situ wh-phrases do not undergo any LF raising operations, contra suggestions in Huang 1982.

It will be remembered that the critical locality examples Huang uses to motivate LF wh-movement are cases where wh-adjuncts may not occur in island configurations. On the basis of a variety of theoretical arguments concerning scope, selection and absorption among others (to be considered in a later section) Huang suggests that *all* wh-phrases will need to raise to some +Q Comp prior to LF; as Subjacency is claimed not to constrain LF dependencies (though this is now very much in question) and the traces of argument wh-phrases will always satisfy the ECP in Chinese[2] such elements may freely occur in situ in island environments raising to Comp at LF. Where LF extraction of wh-*adjuncts* takes place however this will violate the ECP, antecedent-government of the wh-adjunct trace being blocked by the barrierhood of the island. Thus differences in the distribution of in situ wh-arguments and wh-adjuncts in Chinese (and other languages) are accounted for if it assumed: a) that all wh-elements raise to Comp at LF, b) the ECP uniformly constrains both overt and LF movement operations, and c) Subjacency is *only* applicable to pre-S-Structure/Spell-Out movement.

Such an account is seriously cast into doubt when one considers the

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[2] Huang argues that both objects *and* subjects are always properly-governed in Chinese, objects by the verb and subjects by Infl.

patterning of wh-phrases in Ancash Quechua (AQ) and further data from Chinese. In wh-questions in AQ as reported by Cole & Hermon 1994 both overt wh-movement and an in situ strategy are attested, vis:

(38) May-man-taq$_i$ Jose munan [Maria t_i aywanan-ta]?
where-to-q Jose wants Maria will go-acc
Where does Jose want Maria to go?

(39) Jose munan [Maria may-nan aywanan-ta]?
Jose wants Maria where-to go-acc
Where does Jose want Maria to go?

As with Chinese, wh-phrases are also fully acceptable in situ in islands such as CNPs, where overt wh-movement from such positions results in typical Subjacency-like violations:

(40) (Qam) kuya-nki ima-ta suwaq nuna-ta?
you love-2pl what-Acc steal man-Acc
What is x, such that you love the man who stole x?

(41) *Ima-ta-taq (qam) kuya-nki suwaq nuna-ta?
what-Acc-Q you love-2pl steal man-Acc
*'What do you love the man who stole?'

It might therefore be suggested that wh-phrases in AQ need undergo movement to Comp at *some* derivational point, and that only overt movement is subject to Subjacency. However, there is other good evidence in AQ that in situ wh elements do *not* in fact undergo any kind of LF raising.

It has been observed that there exists in AQ a subject-object asymmetry with regard to extraction that is highly reminiscent of the *that*-trace paradigm in English. Whereas object wh-phrases may raise to the Comp of a higher clause

from a position within an embedded CP, this option is not open to subject wh-phrases:

(42) Ima-ta-taq Fuan musyan [Rosa t ruranqan-ta]?
what-Acc-Q Juan knows Rosa made-Acc
What does Juan know that Rosa made?

(43) *Pi-taq Fuan musyan [t tanta-ta ruranqan-ta]?
who-Q Juan knows bread-Acc made-Acc
Who does Juan know that made bread?

Cole & Hermon suggest that 43 should be analyzed as a straightforward ECP violation, the subject position not being properly-governed just as in illicit cases of subject extraction where an overt complementizer occurs in English (it cannot be a Subjacency violation as object extraction from embedded CPs is fine):

(44) *Who$_i$ did you say that t_i came?
(45) Who$_i$ did you say that you saw t_i?

Despite extraction from subject positions being ill-formed it is nevertheless found that wh-phrases *may* occur *in situ* in embedded clause subject positions:

(46) Fuan musyan [pi tanta-ta ruranqan-ta]?
Juan knows who bread-Acc made-Acc
Who does Juan know made bread?

This crucial piece of data would seem to render Huang's position on wh-in-situ untenable. It is at once suggested that in situ wh-phrases must undergo LF raising in order to satisfy quite general cross-linguistic properties of selection, scope and absorption and also that all LF movement is subject to the ECP. In 46 LF raising of the wh-phrase subject should give rise to an ECP violation parallel

to 43, yet such examples are perfectly well-formed. It can therefore be concluded either that wh-phrases in AQ do not undergo LF raising to Comp and hence that general properties of selection, scope etc do *not* necessitate LF raising of in situ wh-phrases, or that the ECP does not in fact constrain LF movement. The former conclusion would have for effect that the motivation for LF raising in Chinese would then reduce *solely* to the empirical wh-adjunct locality facts and there would no longer be any general theoretical reasons to trigger and explain the need for such raising. The latter conclusion if adopted would mean that restrictions on the distribution of in situ wh-adjuncts in Chinese can no longer be taken as indication of *movement* - if the ECP does not in fact constrain LF raising then the unacceptability of wh-adjuncts in islands in Chinese cannot be ascribed to any ECP violation and would have to be attributed to some other non-movement constraint on wh-in-situ. Supposing one were in fact to suggest that *neither* of the principles taken to constrain movement operations (Subjacency and the ECP) were actually to be operative at LF there would then no longer seem to be any legitimate or justifiable reason for considering the wh-in-situ to Comp dependency as one of movement, as it would no longer exhibit any of the key identifying properties of a movement relation. This is indeed the conclusion that we believe ultimately needs to be made; if a dependency between a wh-phrase and a +Q Comp must be established in the course of a derivation then we suggest that in a large number of languages this may be effected without the need for movement to relate the wh-phrase to the +Q Comp. Where a wh-phrase is phonetically interpreted 'in situ' as in the AQ examples above the evidence would strongly appear to indicate that no movement operation to Comp takes place at any point and that wh-phrases may therefore *generally* be interpreted without any raising to Comp; it may also be assumed that this in situ interpretation possibility is taken up in other languages besides Quechua. Why wh-phrases *must* undergo raising to a +Q Comp in certain languages will be considered at length in chapter 2; concerning the overt raising of wh-phrases in AQ in particular (as in 40 / 42) we suggest this is actually not triggered by any *+interrogative* relation between a +Q Comp and the wh-phrase, but is rather a form of topicalisation or *focus*, Cole

& Hermon observing that wh-phrases may in other instances undergo raising to -*Q* Comp positions too (see chapter 3 for related discussion of wh-focus-raising in Basque, and this chapter for Bahasa Indonesia).

It should also be noted that the general dilemma here cannot be resolved by suggesting that the ECP is somehow a constraint on *PF* rather than LF (as proposed in Aoun, Hornstein, Lightfoot and Weinberg 1987). If one were to attempt to argue that all wh-phrases in AQ *do* undergo LF raising and that the contrast between the subject wh cases 43 and 46 is due to overt movement being later constrained by the ECP as a filter on PF (and so not constraining any LF extraction) then one clearly loses the Chinese wh-adjunct data again, as the 'ECP' violations in Chinese would indeed only occur at LF.

Further arguments against taking the unacceptability of Chinese wh-adjuncts in situ in islands as indicative of ECP violations (and hence LF movement) can be given from within Chinese too. Tsai 1992 reports that the types of wh-element which do give rise to unacceptability when occurring in situ in islands are actually quite limited and reduce to just *weishenme 'why'* and *zenme(-yang) 'how'* when the latter has a manner reading (but not when understood as questioning means). Other wh-adjuncts may in fact occur quite licitly in island configurations, vis:[3]

(47) Ni bijiao xihuan [[ta zenmeyang zhu] de cai]?
you more like he how cook Rel food
What is the *means* x, such that you prefer the dishes which he cooks by x?

(48) [[Tamen zenmeyang chuli zhe-bi-qian] de shuofa] bijiao kexin?
they how handle this-Cl-money Rel story more believable
What is the *means* x, such that [the story [that they handled this money by x]] is more believable?

[3] This is also true for Japanese.

Tsai also shows that Chinese allows for certain overt topicalization/fronting of wh-phrases:

(49) Shei$_i$ ni renwei [t_i zui xihuan Lisi]?
who you believe most like Lisi
Who do you think most likes Lisi?

(50) Shenme$_i$ ni renwei [Lisi zui xihuan t_i]?
what you think Lisi most like
What do you think Lisi likes most?

However such wh-fronting is not possible with *any* type of wh-adjunct, neither *weishenme 'why', zenme(-yang) 'how'* nor other wh-adjuncts such as *shenme-shihou- 'when', zai-nali 'where', zenme(-yang) 'means-how',* even where this would not involve any island violation:

(51) *Zai-nali$_i$ ni renwei [ta t_i gongzuo]?
where you think he work
Intended: Where do you think that he works?

(52) *Shenme-shihou$_i$ ni renwei [ta t_i shui-jiao]?
when you think he sleep
Intended: When do you think he sleeps?

(53) *Zenmeyang$_i$ ni renwei [Lisi t_i yinggai chuli zhe-jian-shi]?
how you think Lisi should handle this-Cl-thing
Intended: What is the means x, such that you think Lisi should handle this thing by x?

(54) *Weishenme$_i$ ni renwei [t_i Lisi cizhi]?
why you think Lisi resign
Intended: Why do you think that Lisi resigned?

As such movement cannot violate Subjacency (and is good with argument wh-phrases) the unacceptability of 51 (54) is attributed to violations of the ECP, the extraction-sites of the adjuncts not being properly-governed (assuming a Rizzi 1990-type view of the ECP). If this is true, and there seems to be no other reason why fronting of wh-adjuncts should not be possible if wh-argument fronting is acceptable, then the extraction and movement of wh-adjuncts in Chinese should not be possible *anywhere* at any level - an ECP violation should always occur wherever an adjunct is extracted, due to its extraction-site not being properly-governed. Given then that *all* adjunct types nevertheless may occur in situ in simple clauses without giving rise to any unacceptability 55-56, it can justifiably be argued that the +Q Comp-wh-phrase dependency in these good cases is satisfied in some other way which critically does not involve movement and extraction:

(55) Ni renwei [Lisi weishenme cizhi]?
you think Lisi why resign
Why do you think Lisi resigned?

(56) Ni renwei [ta zai-nali gongzuo]?
you think he where work
Where do you think he works?

The unacceptability of 51 (53) compared with 47 (48) also strongly argues against Huang's original conclusion that the ill-formedness of *weishenme 'why'* and *zenme(yang) 'how'* in situ in islands is to be ascribed to the ECP and obligatory LF movement. The raising of *any* wh-adjunct has been argued above to give rise to an ECP violation 51-54 yet the occurrence of wh-adjuncts such as *zai-nali 'where'*,

shenme-shihou 'when' and means *zenme(-yang) 'how'* in situ within islands is not ill-formed at all (47-48). It must therefore be assumed that in these environments they are licensed in situ and without any extraction/movement (as otherwise there *would* be violations of the ECP). The fact that *weishenme 'why'* and manner *zenme(-yang) 'how'* are however quite unacceptable when occurring in situ in similar islands can consequently *not* be attributed to any forced LF raising of (all) wh-phrases interacting with the ECP, as then not only *weishenme / zenmeyang* but all other adjuncts should be ill-formed in such configurations. It should again be noted that invoking the ECP as a filter just on *PF* to rule out the illicit cases of overt wh-adjunct fronting (but permitting such elements to raise at LF, even from within islands) will not allow one to maintain a coherent LF movement approach either, as then it would no longer be possible to claim that the ill-formedness of *weishenme / zenme(-yang)* in islands might be due to the ECP constraining *LF* Movement (i.e. Huang's original proposal).

Ultimately then it can be shown in Quechua and Chinese that the relation between an in situ wh-phrase and a +Q Comp is constrained neither by Subjacency nor the ECP and hence would not appear to be a dependency resulting from *movement* to a +Q Comp. Chinese does exhibit certain restrictions on the distribution of elements such as *weishenme* and *zenme(-yang)* yet we have argued that these cannot be reduced to a violation of principles which constrain operations of movement or extraction (the ECP). In chapter 2 we will present further evidence from a variety of other languages which clearly indicates that a notion of non-movement locality constraining the licensing of wh-phrases in situ is indeed necessary. Regarding the apparent exceptional sensitivity of *weishenme / zenmeyang* to certain types of containing structure, we suggest that this may also best be analyzed as an instance where the licensing of a (wh-) dependency is subject to locality restrictions although no actual *movement* occurs in establishing the wh-Comp dependency (this being similar to other non-movement dependencies such as Clitic Left Dislocation in Italian which also appear to be constrained by strict locality conditions - see Cinque 1990 and chapter 2 for discussion).

2.14 Scrambling and Wh In Situ

Having considered the status of Subjacency and the ECP with regard to the distribution of wh-phrases in situ and concluded that overt raising operations would seem to be constrained in ways quite different from any that might be hypothesized to take place at LF, we now look more briefly at another case where there is a potentially significant lack of parallelism between overt movement and hypothetical wh-raising at LF. This concerns certain contrasts observed in Japanese scrambling data such as 57 and 58 quoted from Saito 1986:

(57) *[[Mary-ga t_i yonda to]$_k$ [sono-hon-o]$_i$ [John-ga t_k itta]]]
Mary-Nom read C that-book-Acc John-Nom said
John said that Mary read that book.

(58) ??[[John-ga *dono-hon-o* toshokan-kara karidashita to]$_i$ [Mary-ga
John-Nom which book-Acc library from borrowed C Mary-Nom
[minna-ga t_i omotte-iru *ka*] shiritagatte-iru koto
everyone-Nom be-thinking Q be-wanting-to-know Nominalizer
Mary wants to know which book everyone thinks John took out from the library.

In 58 just one application of scrambling has taken place to raise the fronted CP out of a lower embedded clause. The example is poor yet not as fully unacceptable as 57 where scrambling has occurred twice, first to raise the object of the embedded clause sono-hon-o and then to raise the whole lower CP to sentence-initial position. Both such operations of scrambling should in fact be licit, so Saito ascribes the strong unacceptability of 57 to the fact that in the resulting configuration the NP sono-hon-o will not c-command its trace contained within the CP scrambled to a higher position. The situation is comparable to English 59 below (from Barss 1984); although in both 59 and 60 some constraint on extraction is violated, in 59 as opposed to 60 the raised wh-phrase who will fail

to c-command its trace and the result is that the example is *completely* unintelligible. In 60 who does c-command its trace and although the example is seriously degraded it is nevertheless possible to assign it an interpretation:

(59) *[Which picture of t_i]$_k$ do you wonder [who]$_i$ John likes t_k ?

(60) ??Who$_i$ do you wonder [which picture of t_i]$_k$ John likes t_k ?

Turning to 58 , if one assumes LF movement to Comp of the wh-phrase dono-hon-o, this should result in a configuration with the same essential properties as 57 - the trace left behind by movement of the wh-phrase in the scrambled CP will not be c-commanded by the wh-phrase once it has had to lower down to the +Q Comp of the intermediate CP (Saito argues against full reconstruction of the scrambled elements as then 57 should actually be acceptable). As a result 58 should be as equally unacceptable as 57 . The contrast in acceptability between 57 where *overt* movement takes place and 58 where a wh-element occurs in situ is therefore left unexplained if it is assumed that the wh-phrase must undergo movement at LF, and hence may be taken as an additional argument for assuming that in situ wh-phrases do not raise to Comp at LF.[4]

2.20 Non-parallelism with regard to interpretative possibilities

2.21 Only and wh in situ

Section 2.1 above has shown that there are strong and consistent contrasts between the positions in which wh-phrases may occur *in situ* and those from which (overt) movement may be initiated, indicating that unless post-Spell-out applications of movement are subject to a set of locality principles quite different in nature from those constraining overt raising, it may be justifiably concluded

[4] It should further be noted that it would not seem possible to invoke any Pied Piping analysis or the suggestion that Subjacency does not constrain post-Spell-Out movement to explain this data either (i.e. those explanations commonly offered to account for differences between overt movement and the distribution of wh-in-situ).

that wh-phrases occurring in situ at PF do not undergo LF raising. There is also evidence that the interpretative possibilities open to wh-phrases in situ do not always mirror those available where overt raising has taken place, this providing further argument against any LF movement analysis. One such piece of evidence is provided in Aoun and Li 1993 (relating to earlier work carried out by Tancredi 1990) and concerns the potential scopal interactions of *only* (and its equivalent in Mandarin Chinese *zhi*) with wh-phrases both in situ and raised. It is noted that *only/zhi* may only be associated with a *lexical* element in its c-command domain and not the trace of an item which has undergone raising out of this domain:

(61) He only likes Mary.

(62) $Mary_i$, he only likes t_i.

Sentence 61 is ambiguous in that there is one possible reading in which the quantificational force of *only* is associated with *Mary*: 'It is only Mary that he likes.', and a second interpretation where *only* quantificationally restricts (just) the verb *like*: 'His relationship to Mary is only that he likes her, (i.e. he doesn't *love* her).' However, where topicalization takes place to raise the NP object higher than the adverb as in 62 , only the second reading is possible. Such contrasts led Tancredi to propose a Principle of Lexical Association (PLA):

(63) An operator like *only* must be associated with a *lexical* constituent in its c-command domain [i.e. not with the *trace* of any element].

The PLA holds, as expected, also where overt wh-movement has occurred:

(64) Who_i does Mary only like t_i ?

64 may not have the interpretation: 'Which person is such that he/she is the only person that Mary likes?' but only one in which *only* associates with the verb *like*. Aoun and Li then argue that it is however possible for the quantificational force

of *only/zhi* to be associated with wh-phrases occurring *in situ*:

(65) Which girl said she only liked what?

(66) Ta zhi xihuan shei?
he only like who
Which person is such that he only likes that person (and not others)?

65 may be interpreted as asking: 'Which girl said of which thing that that thing was the only thing that she liked?' and 66 that of the gloss indicated. This then suggests that in situ wh-phrases do not undergo raising at a level of LF. Were they to do so, leaving just a trace behind in the c-command domain of *only/zhi* there would be no way to distinguish such an LF representation from one in which wh-raising had taken place prior to Spell-out, and the same lack of ambiguity as observed in 64 would be predicted. As the *only-wh* interaction relates to the scopal interpretation of one element relative to another, it is natural to assume that this is resolved at LF, hence that it is indeed the LF representation of *only* relative to the wh-phrase which is critical and not any prior PF/S-structure relation.

2.22 Anaphor-antecedent relations

The interpretative possibilities which are available to items contained *within* a wh-phrase would also seem to vary depending upon whether the wh-phrase is raised or occurs in situ (that is, if a particular language has wh-phrases both raised and in situ at PF, as e.g. English). This is clearly seen in the following examples noted in Brody 1994:

(67) $John_i$ wondered [which pictures of $himself_{i/k}$] $Bill_k$ liked t.
(68) *John wondered when Mary saw [which pictures of himself].

In 67 the anaphor *himself* may have as antecedent either the subject of the lower CP *Bill* or that of the matrix clause *John*. Overt movement of the wh-phrase to SpecCP of the lower clause has for effect that co-reference of an anaphor contained within it and an NP in the immediately dominating clause becomes possible in some way (see Chomsky 1993 for suggestions on how this co-reference possibility may technically be explained), while the link with its trace position also allows for the anaphor to take the lower clause subject as a potential antecedent (this occurring either from an LF reconstruction operation or perhaps in virtue of a full copy of the raised wh-phrase being present in its trace position, again see Chomsky 1993 for details). Given that within the Minimalist model of syntax there is no level of representation corresponding to S-structure over which constraints such as the Binding Theory might be stated, and that it would not seem possible to justify stating such interpretative constraints on PF, it must be the case that the Binding Theory applies directly to LF representations and hence not to PF/surface forms such as 68 . Were wh-phrases occurring in situ at PF then to undergo covert raising at LF, such an operation should bring the wh-phrase in 68 into a position in which co-reference between *himself* and the matrix subject *John* should be available, just as in 67 :

(69) LF?: John wondered [[which pictures of himself]$_i$[when] Mary saw t_i]

The unacceptability of 68 consequently indicates that such examples do not give rise to LF forms like 69 , and so again suggests that wh-phrases occurring in situ at PF remain in such positions throughout the course of a derivation.

2.23 Weak Crossover

Weak Crossover phenomena can be shown to provide arguments against the LF wh-movement hypothesis of a kind similar to those above, in that possibilities of co-reference between elements within a sentence (in this case between a pronominal element and a wh-phrase) may vary depending upon whether a wh-

phrase is overtly raised to Comp or appears in situ at PF.

In the past Crossover phenomena have actually been taken as general arguments *for* LF movement, in particular as evidence for Quantifier Raising. It has been suggested that the impossibility of co-reference between the universally quantified NP and the pronoun in 70 should be explained in the same way that co-reference between the pronoun and the wh-phrase in 71 is unavailable:

(70) *His_i mother likes $everyone_i$.

(71) *Who_i does his_i mother like t_i?

Koopman & Sportiche 1982 have proposed that the intended co-reference in 71 is not possible because raising of the wh-phrase will result in a configuration in which an operator in SpecCP attempts to bind more than one element interpreted as a variable - the pronoun and the wh-trace, this (it is claimed) violating a bi-uniqueness constraint on operator-variable relations (the Bijection Principle). Noting that co-reference between the pronoun and the QP is equally impossible in 70 , it is suggested that the QP *everyone* undergoes covert LF raising (QR) to a position from which it will c-command both the pronoun and its own trace, hence giving rise to the same type of crossover configuration as observed in the case of wh-movement in 71. The Bijection Principle will then rule out 70 in a way fully parallel to 71 :

(72) LF [$everyone_i$ [his_i mother likes t_i]]

Recently it has been noted that many cases which might be expected to give rise to Weak Crossover violations are in fact quite acceptable, contra the predictions of the Bijection Principle; in particular topic structures and non-restrictive relative clauses which exhibit the same basic configurational properties as (70) do seem to allow for co-reference between an operator in SpecCP and a pronoun that has been 'crossed-over' in the course of raising to Comp (as long as the pronoun does not also c-command the trace of movement, i.e. *Strong*

Crossover). This has led to various attempted reformulations of the constraints relevant to Weak Crossover, in Postal 1993 these being recast partly in terms of the relevant referentiality of an operator, distinguishing topic and non-restrictive relative clause operators from *wh* and restrictive relative clause operators (with only the latter two types of operator giving rise to Crossover violations). However, even with wh-questions there are occasions where an interpretation of co-reference predicted to be unavailable is actually licensed, where certain focus-related elements such as *even, only* and the adjective *(x's) own* occur:

(73) Which man$_i$ did even *his*$_i$ children dislike t$_i$?
(74) Which man could only *his*$_i$ children tolerate t$_i$ when he$_i$ got mad?
(75) Who$_i$ did his$_i$ *own* children betray t$_i$ to the enemy?

As 73-75 do allow for co-reference between the raised wh-phrase and the co-indexed pronoun, this suggests there is something missing from approaches which seek to account for Weak Crossover phenomena *purely* in terms of the structural properties of the configuration and the referentiality of the raised XP. We would suggest that co-reference between the pronoun and the wh-phrase even in cases like 71 is not blocked by any structural properties present in the configuration, just as in topic and non-restrictive clauses, but that *pragmatically* the strong tendency will be to assign independent reference to pronoun and wh-phrase. The use of *even / only / (x's) own* will then make salient an interpretative possibility that is potentially *always* licensed in such configurations. This contrasts strongly with *Strong* Crossover sentences which *never* allow for co-reference of pronoun and wh-phrase even where the above focusing elements are employed, so that the impossibility of co-reference in such examples can indeed be attributed to particular structural properties of the relevant configurations and is not just a question of preference of interpretation:

(76) *Who$_i$ did *even he*$_i$ say t$_i$ was incompetent?

Considering now the possibility of co-reference between *in situ* elements and NPs in configurations of Weak Crossover, it can be noted that the use of *even / only / ('s) own* does *not* in fact licence co-reference in the way that is possible when an element has undergone overt raising. This is found both with Quantifier Phrases and wh-in-situ:

(77) **Even / only his*$_i$ children dislike every man$_i$

(78) **His*$_i$ *own* children dislike every man$_i$

(79) *Why did only his$_i$ wife think that you could tolerate which man$_i$?

(80) *Why did his$_i$ own children think that Bill had betrayed which man$_i$ to the authorities?

(81) *When did even his$_i$ children say that Mary disliked which man$_i$?

If the wh-phrases in situ in 79-81 were to undergo raising at LF then the relevant configurational properties of 79-81 (which do allow for co-reference as opposed to those of Strong Crossover examples which do not) and those of the sentences with overtly raised wh-phrases would be identical at LF. This should then lead one to predict that co-reference in 79-81 should also be licensed where *even / only(x') own* occur with the pronoun (again on the natural assumption that co-referential properties are computed at LF rather than PF). That co-reference is not at all possible can then be taken as further indication that wh-phrases occurring in situ at PF (and QPs it would seem) remain in situ for their interpretation at LF and are not subject to any post-Spell-out raising operation.

2.24 De dicto/de re readings in Partial Movement structures

As we will more fully illustrate in chapter 3, certain dialects of German (and many other languages) allow for (at least) two different strategies in the formation of wh-questions; alongside regular 'long' wh-movement there is also an option of moving a wh-phrase to a Comp position lower than that at which it is understood to have/take scope, a wh question particle *was* 'what' (which receives no

interpretation) being inserted at the higher +Q Comp:

(82) Mit wem$_i$ glaubt Hans dass Johann t_i nach Berlin gefahren ist?
with whom believes Hans that Johann to Berlin travelled has
With whom does Hans believe that Johann has gone to Berlin?

(83) Was glaubt Hans mit wem$_i$ Johann t_i nach Berlin gefahren ist?
WH believes Hans with whom Johann to Berlin travelled has
With whom does Hans believe that Johann has gone to Berlin?

The general claim we are attempting to make in this chapter is that wh-phrases do not undergo any covert LF raising operation to a +Q Comp from the positions they occur in at PF. In the case of wh-phrases which have already undergone partial movement in the overt syntax this amounts to suggesting that such partially-moved wh-phrases will not undergo any *further*, covert LF raising to a +Q Comp. That there is no further LF raising of such elements might seem to be suggested by certain interpretational differences present when partially- and long-moved wh-phrases co-occur with belief-predicates like *glauben* in 82-83 [5]. Informants have indicated that while both a de re and a de dicto interpretation of the wh-phrase are available in 82 , only a de dicto reading is associated with the wh-phrase in the partially-moved structure 83 . Such restrictions on the interpretation of partially-moved wh-phrases may be accounted for if the possibility of de re/de dicto readings are computed at LF on the basis of the relative scopal interaction of the wh-element and the belief-predicate and it is assumed that no covert raising of the partially-moved wh-phrase takes place. Supposing that some belief-operator is projected by *glauben* onto the CP which is its complement, then in 82 the (long-moved) wh-phrase occurs in a position which will be outside the c-command domain of this operator, hence allowing for the de re reading; its trace, a copy of the wh-phrase or LF reconstruction into the

[5] A variety of other strong arguments that partially-moved wh-phrases do not undergo covert raising to the +Q Comp will also be presented in chapter 3.

trace position will also allow for a de dicto reading. If the partially-moved wh-phrase in 83 may only have a de dicto reading this would then seem to indicate that at no point in the derivation does it raise to a position outside the scope of the belief-operator (as this *should* allow for such a reading). Were it to be the case that *mit wem* in 83 underwent further post-Spell-out raising to the higher +Q Comp, then this raising should give rise to an LF configuration parallel to that in 82 and the interpretation of the two sentences would be expected to be fully parallel, which apparently is not the case. Thus we again attest that the interpretative possibilities open to wh-phrases would seem to be limited by the position in which they occur at PF.

2.25 Bahasa Indonesia

A last case we wish to cite as illustration that the interpretative possibilities exhibited by overtly-moved wh-phrases may not mirror those of wh-phrases in situ comes from Bahasa Indonesia as described in Saddy 1991. This is another language in which wh-phrases may optionally occur either in situ or raised overtly to a clause-initial position:

(84) Sally men-cintai siapa ?[6]
Sally trans-love who
Who does Sally love?

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[6] The transitive prefix *-men* appears when there is an overt object occurring after the verb. When there is movement from object position, as in 85 the transitive affix does not occur. This curiously seems to be exactly opposite from the patterning of object agreement in languages like French - when an object is overtly raised in question formation, relativization, cliticisation etc this may result in overt agreement on the past participle form of a verb, but when no such pre-Spell-Out movement takes place overt object agreement is never attested:

(i) la femme$_i$ O$_i$ que j'ai vue t$_i$
the woman that I have seen+fem

(ii) J'ai vu une femme
I have seen a woman

(85) Siapa$_i$ yang Sally cintai t_i?
who yang Sally love
Who does Sally love?

Arguably the raising in 85 may actually be for *focus* rather than *wh*-related reasons as non-*wh* elements are also able to front in this way and the raising of a wh-phrase does not always establish its +interrogative scope at the position moved to:

(86) Bill tahu siapa$_i$ yang Tom cintai
Bill know who yang Tom love
Either: Bill knows who Tom loves.
Or: Who does Bill know that Tom loves?

An X^0 element yang occurs to the immediate right of any type of fronted element and as this may be preceded by overt complementizers (in embedded CPs) it can be suggested that yang is in fact the head of a F(ocus)P.

What is important to note here is that the overt raising of a wh-phrase to a clause-initial position results in possibilities of interpretation that are quite different from sentences with in situ wh-phrases. In 87 below the in situ wh-phrase may only be interpreted as having wide scope with respect to the c-commanding universally-quantified NP:

(87) Setiap orang men-cintai siapa?
every person trans-love who
Who does everyone love?

Being unambiguous, 87 can only be answered with a single value for *siapa* 'who' rather than pairs of values such as: Mary loves John, Sue loves Bill etc. However, where overt raising has taken place, as in 88 , the sentence becomes ambiguous, there being a second reading available with the universal QP having wide scope

over the wh-phrase (and hence allowing for the above pair-type answers):

(88) Siapa$_i$ yang setiap orang cintai t_i ?
who yang every person love
Who does everyone love?

If this ambiguity is a function of raising the wh-phrase to some clause-initial position from which the it will c-command the universal QP and the latter will in turn c-command a trace left behind by the movement of the wh-phrase, then any analysis in which in situ wh-phrases undergo obligatory LF raising to Comp predicts that the ambiguity attested in 88 should also be present with wh-in-situ structures such as 87 . LF raising of the wh-phrase in 87 should result in a configuration with the same *essential* properties as 88 , the wh-phrase c-commanding the QP and this c-commanding a trace of the wh-phrase. As 87 is in fact unambiguous and one must assume that the scopal interaction of quantificational elements such as QPs and wh-phrases is only resolved at LF it seems one has to conclude that in situ wh-phrases in Bahasa Indonesia do not in fact undergo any covert LF raising. Again we find obvious and significant differences between the overt raising of a wh-phrase (for whatever reasons) and their occurrence in situ, differences which for all relevant purposes would disappear in any LF representation of in situ wh-phrases raised into a +Q Comp and which therefore suggest that the licensing of such elements does not involve (LF) movement.

Consideration of the minimal pair 87-88 also gives rise to an interesting and important secondary conclusion. If as argued the wh-phrase in 87 does not undergo any LF movement to a position c-commanding the subject QP but is nevertheless interpreted as taking wide scope relative to it, then it can be assumed that the possibility of such wide scope readings need not depend on the wh-phrase necessarily having to occur in a position outside the c-command domain of the QP. This significant point will be returned to later in section 4.3 when we consider arguments for LF raising based on relative scope phenomena.

2.3 Where an LF raising analysis implies conditions on S-structure: Parasitic Gaps, Superiority licensing, ACD (2)

Finally we will consider two cases where in situ and overtly moved wh-phrases appear to differ in their ability to licence various structure types, and a third case in which the hypothetical LF raising of in situ wh-phrases is expected to licence well-formed interpretations for certain sentences but where instead it is found that such sentences are completely unacceptable (Antecedent Contained Deletion).

The first case is that of Parasitic Gaps. Whereas overt movement of a wh-phrase to Comp is seen to licence Parasitic Gaps in English (providing that the anti-c-command constraint is not violated), the occurrence of a wh-phrase in situ apparently will not:

(89) What$_i$ did John send off without having copied e_i ?

(90) *Who$_i$ did John give t_i what$_k$ without having copied e_k ?

It has commonly been stated that Parasitic Gaps are licensed by A'-chains resulting from S-structure movement. If one does assume that wh-phrases occurring in situ at PF undergo raising at LF and so form A'-chains at this level, one might expect that Parasitic Gap structures would also be licensed by wh-phrases in situ in appropriate configurations. However as this turns out not to be the case, it has to remain as pure stipulation and without any obvious explanation that it is specifically and only A'-chains formed prior to Spell-Out that will allow for Parasitic Gaps. Apart from it not being clear what should give rise to this particular S-Structure/Spell-Out property of Parasitic Gap constructions, in a Minimalist model of syntax it is also argued that syntactic constraints may not be stated over any level of S-Structure or the point of Spell-Out but in terms of the interface levels alone, PF and LF. If other data and theoretical arguments lead one to the claim that wh-phrases in situ at PF do not undergo any raising at LF then this problematic aspect of the licensing of Parasitic Gaps automatically disappears. It can straightforwardly be stated that Parasitic Gaps are licensed by

A'-chains formed anywhere within a derivation and that the reason why wh-phrases in situ do not allow for Parasitic Gaps is simply because they never give rise to A'-chains, remaining in their in situ positions throughout until LF/interpretation.

A second case where the licensing effects of moved and in situ wh-phrases differs relates to multiple wh-questions and (potential) Superiority violations. In wh-questions where both subject and object are wh-phrases it is the subject rather than the object which must be overtly raised to Comp as already noted in an earlier section:

(91) Who$_i$ t_i hid what?

(92) *What$_i$ did who hide t_i ?

92 has standardly been analyzed as an ECP violation, it being suggested that when who undergoes LF raising to Comp it will not be able to antecedent-govern its trace. In an alternative re-formulation of the ECP in Rizzi 1990 and Cinque 1990 it is proposed that the extraction-site in any movement chain must be properly-head-governed in order to satisfy the ECP. In 92 C^0 will not be able to carry the agreement specification that would licence it as a head-governor for SpecIP as SpecCP is occupied by another wh-phrase what already by S-Structure (and consequently C^0 will carry agreement relating to what due to Spec-head agreement). However one formally attempts to account for the ill-formedness of examples such as 92 it seems that it is the subject wh-phrase which is unlicensed in some way - were the subject not to be a *wh*-phrase then the example would be fine, vis: "What did Mary hide?". Considering such examples Kayne 1984 made the interesting observation that the additional presence of a third wh-phrase in situ in such cases *will* somehow result in licensing of the subject wh-phrase:

(93) What$_i$ did who hide t_i where?

Kayne suggests that licensing of the wh-phrase subject here is parasitic on a 'G-projection' created by the extra wh-element linking it to the +Q Comp. What is significant to note is that such a licensing G-projection will only be established by a wh-phrase *in situ* and will not be created by *movement* of a wh-phrase. If the relation of a trace of movement to Comp were to establish a path to the Comp with the same properties as those Kayne hypothesizes for the wh-in-situ then overt raising of the wh-object in 92 should technically result in a G-projection which would allow for parasitic licensing of the subject (yet 92 is quite unacceptable). One is faced with two alternative possibilities. One could attempt to maintain that all in situ wh-phrases undergo raising to Comp and suggest that it is G-projections established and present at S-Structure which will induce the relevant licensing (hence overtly raised wh-phrases will not, as in 92). In 93 both who and where will raise at LF but where will have played its important licensing role at S-Structure being in situ at this point. This has as direct consequence that one must allow for constraints applying to S-Structure/Spell-Out, a possibility not permitted within the Minimalist Framework. A second option is to suggest that in situ wh-phrases do not undergo covert raising to Comp at any derivational point. 92 and 93 will then be critically distinct at LF in that in the latter a full wh-phrase will occupy a position which may give rise to a licensing G-projection while in the former only a wh-trace will occur. Whatever mechanism one ultimately may make use of to describe the parasitic licensing effect observed in 93 , this distinction between wh-phrases in situ and traces of wh-movement must still be recognized, and if licensing constraints may not be stated over S-Structure one must assume that at LF the dependency of an in situ wh-phrase to a +Q Comp is encoded in some way other than via movement.

The final argument we present in this section arguing against any LF raising analysis of in situ wh-phrases relates once more to Antecedent Contained Deletion. As mentioned earlier, May 1985 suggests that the infinite interpretative regress facing unacceptable cases of VP-ellipsis such as 94 below may be overcome in examples like 95' due to an operation of QR, raising the NP containing the elided VP-site out of its own VP to some higher position at LF prior

to ellipsis resolution:

(94) *John [$_{VP}$likes the man who Bill does [$_{VP}$]].

(95) John likes *everyone* who Bill does [$_{VP}$]. → LF:
[everyone who Bill does [$_{VP}$ like t_i]$_i$ [John likes t_i]

It is therefore an (LF) raising operation triggered by the quantificational nature of the NP object in 95 which essentially distinguishes 94 and 95 and which ultimately is responsible for the well-formedness of the latter. If wh-phrases occurring in situ at PF undergo covert raising at LF, they are as a result predicted to license ACD in the same way; raising to Comp of a wh-phrase object containing an elided VP should result in a configuration similar in all relevant aspects to that arising with QP-objects after quantifier raising, and hence allow for VP-ellipsis to be resolved even in cases of ACD. However, as has been noted in Stroik 1992, ACD is *not* possible with wh in situ, as 97 , 99 and 101 show:

(96) John reviewed every student's paper that Bill did [$_{VP}$].

(97) *Who reviewed whose paper that Bill did [$_{VP}$]?

(98) Jane used every argument that she could [$_{VP}$].

(99) *Who used which argument that he could [$_{VP}$]?

(100) Joan criticized everything that Mary did [$_{VP}$].
= *Joan criticized everything that Mary criticized.*

(101) *Who criticized which course that Mary did [$_{VP}$]?
bad on the interpretation: *Who criticized which course that Mary criticized?*

Consequently, given that the hypothetical LF raising of in situ wh-phrases *should* create the type of LF structures allowing for successful VP ellipsis resolution but ACD is found to be quite unacceptable with wh-in-situ, the obvious conclusion which may again be drawn is that such elements do not in fact undergo any covert LF raising to Comp.

We began this chapter with a brief presentation of various theoretical arguments taken as central motivation for the LF wh-movement hypothesis. It was seen that the assumption that wh-phrases in situ at PF undergo covert raising to Comp at a level of LF may indeed allow for potential explanation of a range of linguistic phenomena including Crossover and Superiority violations. We then however argued that the striking absence of locality effects with hypothetical LF movement is strong reason to doubt any covert raising account of wh-in-situ. If constraints on movement operations such as Subjacency are taken to apply in a uniform way throughout any derivation, as is both natural to assume and theoretically required from a Minimalist standpoint, then the fact that wh-in-situ to Comp dependencies may consistently violate such locality restrictions might seem to indicate that such dependencies are not in fact established via movement. We then attempted to see if other evidence against the LF wh-movement hypothesis could be found, and presented arguments and data from a variety of languages in support of the view that wh-phrases in situ at PF are not subject to covert LF raising. If such elements may therefore remain in situ for their interpretation, contra earlier suggestions, then the evidence and theoretical argumentation originally taken as supportive of the LF (wh-)movement hypothesis appear in need of re-examination. We will now endeavour to show that there are available quite coherent ways of accounting for Crossover, Superiority and various other phenomena which critically do not depend on any notion of covert wh-raising.

3.0 Arguments for LF Movement re-interpreted

3.1 Wh-adjuncts in situ

One important set of data which an LF raising approach claims to account for, it will be recalled, relates to locality constraints on the distribution of wh-adjuncts in situ. As detailed in section 1.5 Huang 1982 suggests that the unacceptability of (certain) wh-adjuncts occurring in situ within island configurations is to be

explained in terms of the ECP directly constraining LF raising of in situ wh-phrases. Section 2.13 did in fact already reconsider the validity of such arguments and concluded that restrictions on the occurrence of adjunct wh-phrases in island environments can *not* be attributed to the ECP (and covert movement). It was first noted that the set of elements subject to island-type locality conditions is actually very limited, reducing to just (the equivalents of) why and manner-how. We then showed that while *all* wh-adjuncts in Chinese (and subject wh-phrases in Quechua) give rise to ECP violations when overtly raised, non-why/how wh-adjuncts are nevertheless fully acceptable in situ in extraction-islands. The conclusions drawn from this was that either all in situ wh-phrases do undergo raising at LF and the ECP does not constrain such LF movement, or that there simply is no LF wh-raising at all, so that the ECP and Subjacency can in fact be taken to apply uniformly to all applications of movement in a derivation. In either case it becomes necessary to posit additional *non-movement* locality constraints to rule out the occurrence of why/how adjuncts in islands as the ECP would incorrectly predict non-why/how adjuncts to be unacceptable in islands if there is LF wh-movement, and if there is not, then restrictions on why/how can obviously not be attributed to raising or extraction.

Restrictions on the distribution of why/how adjuncts which do not parallel those of other wh-phrases and which again would not seem reducible to constraints on movement are also found elsewhere and not only relative to island phenomena (hence indicating that some special treatment of *why/how* adjuncts is indeed necessary). In Japanese multiple wh-questions naze 'why' may not occur as the linearly first wh-element in any string, this being illustrated in 103-105 :

(102) John-ga naze sono-hon-o kaimashita ka
John-Nom why that-book-Acc bought Q
Why did John buy what?

(103) *Naze dare-ga hon-o kaimashita ka
why who-Nom book-Acc bought Q
Why did who buy a book?

(104) Dare-ga naze nani-o kaimashita ka
who-Nom why what-Acc bought Q
Why did who buy what?

(105) *John-ga naze nani-o kaimashita ka
John-Nom why what-acc bought Q
Why did John buy what?

Neither subjacency nor the ECP is being violated in 103 and 105 ; as no islands are present to block (hypothetical) LF movement to Comp. 104 further shows that *naze may* occur licitly in multiple wh questions, just so long as it is not the very first wh-phrase in linear terms. These restrictions on the patterning of *naze* may not be captured with reference to movement and so additional non-movement constraints regulating the exceptional distribution of elements such as *why*-adjuncts are indeed called for in other non-island instances too.[7]

Further to this, it has been noted that naze may not occur in embedded CPs, when relating to the +Q Comp of a higher clause if this latter clause contains a second wh-phrase:

(106) Mary-wa [John-ga naze konakatta to] omoimashita ka
Mary-Top John-Nom why not-came C thought Q
What is the reason x, such that Mary thought John did not come because of x?

[7] Weishenme-'why' in Chinese also shows a similar patterning.

(107) *Dare-ga [John-ga naze konakatta to] omoimashita ka
who-Nom John-Nom why not-came C thought Q
Intended: Who is the person x, and what is the reason y, such that x thought that John did not come because of y?

Again no constraints on movement are being violated here, nor can it be suggested that naze may not co-occur with other wh-phrases, as 104 above is perfectly well-formed. It must therefore be concluded that a variety of factors not relating to movement may affect the distribution of elements such as why and how adjuncts and that, taken with the strong arguments put forward in section 2.13 and partially summarized above, the restriction of such elements to non-island positions does not in fact constitute convincing evidence for covert LF wh-raising.

3.2 Strong Crossover and wh-in-situ.

In section 1.2 it was mentioned that Crossover phenomena have been used to support and add further motivation to the LF wh-movement hypothesis. In both 108 and 109 co-reference between the wh-phrase who and the subject NP is equally impossible:

(108) *Who$_i$ did Jane$_i$ see t_i yesterday?

(109) *When did Jane$_i$ see who$_i$?

It is commonly argued that the unacceptability of the intended co-reference relation in cases such as 108 is ultimately due to a Binding Theory violation. Raising of the wh-phrase will leave behind an empty category trace which is functionally determined as [-P, -A], hence subject to Principle C. The trace may therefore not be bound by any element other than the raised wh-phrase itself. As co-reference between the subject NP and the wh-phrase *in situ* in 109 is also not possible, it is proposed that wh-in-situ cases should be accounted for in a fully

parallel way, with LF raising of the wh-phrase giving rise to a [-P, -A] trace which will then in turn be subject to Principle C.

We would like to suggest that examples such as 109 may however be ruled out without the need to posit (covert) movement. First of all, the relation serving as critical input to Principle C is actually that between the co-indexed NP and the *base-generated* position of the wh-phrase, *not* any position to which the wh-element actually raises; movement of the wh-phrase is essential in standard accounts of Strong Crossover only in so far as it is argued to provide an empty category trace of a type that will be constrained by Principle C. Although the 'crossing-over' of the co-indexed c-commanding NP by the wh-phrase in examples like 108 is often highlighted in the description of such examples, this perhaps drawing attention to the movement aspect present, such crossing-over is in fact not necessary for co-reference violations to occur. In 110 below the wh-phrase does not raise over the co-indexed NP subject but co-reference is equally as impossible as where there is real crossover:

(110) *Jane$_i$ wanted to know who$_i$ Mary had seen t_i

If neither crossing-over of the co-referential NP nor occurrence of the wh-phrase in a SpecCP position is then of any *particular* relevance, and it is the base position of the wh-phrase which is centrally important, we suggest that the impossibility of co-reference in examples like 109 may be accounted for by simply allowing Principle C of the Binding Theory to constrain full wh-phrases directly in *in situ* positions rather than just the traces of wh-elements (avoiding the need to posit covert LF raising to explain the ban on co-reference noted). Just as other overt NP-types are variously subject to Principles A, B and C, it does not seem odd to suggest that wh-phrases as overt NPs are also constrained by the Binding Theory. If it is objected that this would then involve classing wh-phrases together with R(eferring) Expressions (as both being subject to Principle C) and that wh-phrases unlike the latter do not directly pick out entities in the discourse, one can counter that the *traces* of wh-phrases (argued to be subject to Principle C) cannot

be claimed to be *directly* referential in any more obvious way either.

The wh-*trace* account of Strong Crossover as initially proposed can also be shown to be insufficient and unable to directly explain a number of cases such as 111-113. If wh-movement results in an empty category trace co-indexed with the constituent that has undergone raising, and it is this empty category and its index which is subject to the Binding Theory, then Principle C will not immediately explain the unavailability of co-reference in the examples below, as the [-P, -A] trace is not in fact co-indexed with the c-commanding subject NP:

(111) *[To whom$_i$]$_j$ did he$_i$ give the book t_j ?
(112) *[Whose gossip about which woman$_i$]$_k$ did Jane$_k$ fervently deny t_k ?
(113) *[Whose$_i$ book]$_k$ did John$_i$ borrow t_k ?

Either some kind of reconstruction or a full trace copy approach (as per Chomsky 1993) will be necessary to correctly rule out such cases. However then it is no longer an empty category NP resulting from (wh-)movement and determined as [-P, -A] that is taken as direct input to the Binding Theory but rather sub-parts of it which are not themselves exactly wh-traces. It seems that instead of insisting that a particular type of empty category be created for the Binding Theory to apply to (via movement of the element) one should simply allow for Principle C to constrain the semantic content of a wh-phrase in its base-generated position however it is formally represented - as a trace (or represented within a trace-copy) *or* also if phonetically present in situ. If wh-phrases are interpreted as novel and unidentified elements it is quite natural that they may not be co-indexed and bound by any other NP whose reference must be assumed as fixed, this again independent of the method of representation of the wh-phrase.

3.3 D-Linking and wh-in-situ

A third argument considered earlier in favour of (certain) LF wh-movement related to Pesetsky's 1987 proposals on D-Linking and wh-islands (section 1.4).

Claiming that where D-Linked and Non-D-Linked wh-phrases occur in situ in wh-islands only the former may be interpreted as having (possible) scope at a +Q Comp exterior to the wh-island (as in 114), Pesetsky suggests that this may be explained if the latter but not the former are forced to undergo LF raising to a +Q Comp for their interpretation, and that this movement is constrained by Subjacency:

(114) Who remembers where we bought what/which book?

An explanation of some kind is indeed required if the possibilities of interpretation available to wh-phrases in situ in wh-islands do vary according to the property of D-Linking, but it is not clear that this should necessarily be reflected/stated in terms of movement. Several problems appear to afflict Pesetsky's analysis. Firstly, *if* wh-phrases undergo raising to Comp in order to build an operator-variable quantificational structure (as Pesetsky assumes is the case with Non-D-Linked wh-phrases), then it is not obvious why D-linked wh-phrases should in fact be able to remain in situ for their interpretation; with D-Linked wh-phrases a speaker is also asking for a value from some set, and one might expect that this should then necessitate a logical encoding at LF parallel to that with non-D-Linked wh-phrases, with the wh-operator and restriction in clause-external position binding a variable in the nuclear scope, e.g:

(115) Which novel won the Booker Prize this year t?
?x_i [x_i a novel] x_i won the Booker Prize this year

Although Pesetsky suggests that D-Linked wh-phrases are *non*-quantificational, it seems that D-linked wh-phrases do have the same need as non-D-linked phrases to quantify over a set, allowing as possible answer values any of the individuals from that set. Any difference which exists between questions involving D-linked and non-D-linked wh-phrases is rather a matter of *degree* - the degree of the restriction placed on the set from which possible answer-values may be drawn;

with a non-D-linked who the restriction is all those person-valued entities in the world, whereas with D-linked which person some subset of this entire set is assumed. It seems somewhat unlikely that a question of degree should necessarily cause such a dramatic difference in the way a phrase may receive interpretation.[8]

A second problematic aspect of Pesetsky's analysis is that it leads to the expectation that D-linked wh-phrases should *always* remain in situ for interpretation, yet in questions containing just a single wh-phrase, this must in fact undergo raising whether D-Linked or not:

(116) ??You saw which film?[9]

A third problem for the suggestion that D-linked and non-D-linked wh-phrases are syntactically distinguished in that the former may remain in situ for their interpretation while the latter obligatorily raise comes from a consideration of wh-phrases in situ in other non-wh-islands. Since Pesetsky argues that the lack of Subjacency violations observed with wh-phrases in situ taking scope outside of wh-islands is a direct function of their being D-linked (and hence not raising at LF), one would predict that only those wh-phrases that are D-linked would be able to occur in situ in other island configurations. However, as Fiengo et al (1988) point out, non-D-linked wh-phrases regularly occur in situ in English in all island types, e.g. adjunct clauses, complex NPs, subject islands etc. In Pesetsky's view such non-D-linked wh-phrases should be forced to undergo raising at LF resulting in violations of Subjacency in each case, yet the examples are consistently acceptable. One may therefore either conclude that such wh-elements

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[8] It should also be noted that if *which-NPs* are taken to be inherently D-linked then the set containing possible answer values may in fact be very large, in the case of 115 this essentially being 'any novel in the world (perhaps written within the time-frame of the preceding year)'.

[9] Pesetsky cites Polish as a language in which D-linked wh-phrases *may* exceptionally remain in situ even in non-multiple-wh questions, while Non-D-Linked wh-phrases are always subject to raising. However, the overwhelmingly *general* cross-linguistic observation is that if a language does have obligatory wh-movement, then it treats wh-phrases of both D-linked and non-D-linked type in the same way and does not allow the former an in situ option.

do undergo LF movement but that this is not constrained by Subjacency, so that the wh-island cases must be subject to some other non-movement filtering condition, or that Subjacency is indeed a constraint on movement occurring throughout the derivation and that no LF movement of wh-phrases takes place; again some other non-movement-related constraint will consequently need to be invoked to account for the relevant patterning with regard to wh-islands.

What this generally seems to indicate is that D-linking *may* play a role in the licensing of wh-island violations, but this does not in fact relate to whether the wh-phrase actually undergoes movement or not. Such a conclusion is also argued for in Comorovski 1987 on the basis of data in Romanian. In this language there is a D-Linked/Non-D-Linked distinction with regard to wh-island violations which is essentially parallel to that observed in English - a D-Linked wh-phrase base-generated within a wh-island ultimately *may* have scope at a higher +Q Comp whereas non-D-Linked wh-phrases may not. However, what is significantly different to English and Pesetsky's general proposals concerning such high scope possibilities out of wh-islands is that D-Linked wh-phrases in Romanian do in fact undergo *movement* to attain this scope. As 117 and 118 illustrate, extraction of a fully D-Linked wh-phrase from a wh-island is fine, whereas that of a wh-phrase interpreted as non-D-Linked is quite unacceptable:

(117) [La care senator$_i$ stii [ce scriitori$_k$ t_k au apelat t_i]]?
to which senator you-know what writers have appealed
Which senator x is such that you know what writers called upon x?

(118) *[La cine$_i$ stii [ce scriitori$_k$ t_k au apelat t_i]?
to whom you-know what writers have appealed
Intended: Who is the person x, such that you know what writers have called upon x?

The possibility of wh-island violations with D-Linked wh-phrases is therefore seen *not* to be dependent upon a different mode of interpretation being available with

such elements, i.e. in situ binding vs. movement. Where D-Linked and Non-D-Linked wh-phrases in Romanian raise out of wh-islands and are interpreted with scope at some higher +Q Comp we do find the same critical distinction as in English, that only the former type are acceptable relating to such wh-island-external Comp positions. However, here this is clearly not a function of movement vs. non-movement.

One might then be tempted to suggest that this is actually an argument *for* LF raising of D-Linked wh-phrases in English, that *all* wh-phrases regardless of being D-Linked or not are subject to LF raising, just as occurs overtly (with all wh-phrases) in Romanian, and that it is D-Linking which will allow for *LF* violation of wh-islands in English in the same way that it does with *overt* movement in Romanian. However, such a view cannot be correct as overt extraction of a D-Linked wh-phrase from a wh-island in English is quite unacceptable:

(119) */??Which book$_k$ do you wonder who$_i$ Mary gave t_k to t_i ?

Contrasting strongly with Romanian 117 where parallel extraction is not ill-formed at all, this indicates that D-Linking does *not* in fact licence a *movement* dependency crossing wh-islands in English. One therefore must return to the assumption that (in situ) D-Linked wh-phrases in English do not in fact undergo raising out of a containing wh-island for scope at a higher +Q Comp. If a unitary analysis of what appears to be the same type of phenomenon in both Romanian and English is desired, it seems that the notion of movement must be divorced from D-Linking, and one should perhaps attempt to account for wh-island violations with D-Linked wh-phrases in terms of some general semantic property of D-Linking allowing for high scope of wh-phrases in these cases rather than suggesting that such interpretative possibilities are somehow a function of the occurrence or non-occurrence of movement. In Romanian movement out of wh-islands plainly does occur with D-Linked wh-phrases, in English it arguably cannot. The end result, that in both languages it is only wh-phrases with a D-

Linked interpretation that may have scope at a +Q Comp external to the wh-islands is nevertheless the same, and hence should be ascribed to general (perhaps semantic) properties of the resulting configuration rather than linking it to the application (or not) of syntactic raising operations.

In sum then, Romanian shows here that it is not appropriate to attempt to account for the D-Linked/non-D-Linked distinction with regard to apparent wh-island violations by wh-in-situ in English with the suggestion that in situ non-D-Linked wh-phrases in English are forced to raise to a +Q Comp at LF while D-Linked wh-elements may remain in situ. The same D-Linked/non-D-Linked distinction is also seen to surface with wh-elements that do in fact undergo movement. Consequently the data noted in Pesetsky ultimately cannot be taken as strong evidence for assuming any LF raising of (non-D-Linked) wh-phrases and D-Linked-related constraints on interpretation must be accounted for quite independently of movement.

3.5 Superiority and wh-in-situ

A fourth argument reviewed earlier in section 1.3 that has been often presented as support and motivation for the LF wh-movement hypothesis relates to cases of so-called Superiority violations. It was suggested that the unacceptability of sentences such as 121 and 122 reveals a subject/adjunct vs. object asymmetry characteristic of ECP violations, and hence might be explained in terms of such a principle governing extraction and movement *if* it is also assumed that in situ wh-phrases undergo raising at LF:

(120) Who$_i$ t_i hid what?
(121) *What$_k$ did who hide t_k ?
(122) *What$_i$ did Mary fix t_i how?

After LF raising to Comp it is proposed that the wh-phrase subject and adjunct in 121 and 122 will fail to c-command and antecedent-govern the traces at their

respective extraction-sites[10], this giving rise to straightforward violations of the ECP as may occur with overt raising of wh-phrase subjects and adjuncts:

(123) *Why$_i$ did John wonder who left t_i ?
(124) *Who$_i$ did John claim that t_i had gone?

Although an analysis of examples like 120-122 based on LF wh-raising and the ECP does allow for an account of Superiority phenomena in terms of a principle already justified and necessary as a constraint governing extraction/movement, on further inspection there is reason to doubt that the unacceptability of such multiple-wh questions can be attributed to the ECP constraining hypothetical LF wh-movement. The ECP account has been argued to make false predictions in a number of cases, e.g:

(125) What$_i$ did you give t_i Mary?
(126) *What$_i$ did you give who t_i?
(127) Who$_i$ did you send the report to t_i?
(128) ??Who$_i$ did you send what to t_i?
(129) What did who send where?

In 126 the inner object of the verb who should be lexically- (and hence properly) governed by give so LF extraction should not give rise to any ECP violation yet the example is ill-formed. Similarly in 128 what is lexically-governed by the verb so again raising at LF is not expected to violate the ECP. Finally in 129 covert extraction of the subject who should result in an ECP violation parallel to 121 yet the example is quite acceptable (129 being similar to Kayne's 1984 examples considered in section 2.3 above).

If the ECP will not account for such cases there clearly must be other factors constraining the positioning of wh-phrases relative to eachother in

[10] This on the assumption that only the first (overtly) raised wh-phrase may c-command into IP from Comp.

multiple-wh questions. Comorovski 1989 suggests that what may be relevant here is not any constraint on movement or extraction but rather the surface *linear order* of wh-phrases interacting with the pragmatics and presuppositions of multiple-wh questions. In Romanian multiple-wh questions all wh-elements undergo overt raising to a clause-initial Comp position; on certain occasions this is shown to give rise to Superiority-type violations parallel to English, yet in other instances multiple raising of wh-subjects, adjuncts and objects to the same Comp may occur quite licitly and give rise to any permutation in surface linear order, e.g. /subject-object-adjunct/, /adjunct-object-subject/, /subject-adjunct-object/ etc. What Comorovski shows to be of critical importance here is that the wh-element occurring first in the string must be (interpreted as being) *D-Linked* for any multiple-wh question to be acceptable. As long as this condition is fulfilled *all* possible variation in terms of linear ordering of the wh-phrases will in fact be acceptable.

Comorovski suggests that the relevance of D-Linking to multiple-wh questions and Superiority lies in what may be taken to be an appropriate answer-form to such questions. Arguing that multiple-wh questions normally give rise to and require pair-list-type answer forms, as e.g:

(130) Which table ordered what?
A: Table 1 ordered a steak, table 2 a souffle and table 3 the fish.

Comorovski then claims that a felicitous answer-form must exhaustively give values for the *entire* range/membership of the wh-phrase occurring first in linear order. In 130 an acceptable answer should therefore provide a set of pairs of values such that a value for *every* table which ordered something is present (in one of the pairs). With further illustration she goes on to argue that there is no expectation that values also be given for every member of the range of other wh-phrases occurring after the first (so that in 130 the range of <u>what</u> could be the entire menu of the restaurant, but not all items on the menu will necessarily appear in an answer to 130). If this is true, then it can be shown to follow that

the linearly first wh-phrase in a multiple-wh question must be D-Linked but that other following wh-phrases need not necessarily be so. D-Linking of a wh-phrase essentially entails that the full membership of the range of a wh-phrase is assumed to be known to both speaker and hearer. If a multiple-wh question requires that values for the entire range of the first (but not any following) wh-phrase appear in its answer-form then this will obviously only be possible if this membership is known, hence D-Linked.

Comorovski thus attempts to provide an explanation of Superiority effects which does not reduce to the ECP and extraction/movement. As noted, in Romanian all wh-phrases do undergo movement, and (subject to the D-Linking requirement being satisfied) may give rise to any ordering of subject, adjunct and object wh-phrase. It is hence not possible to attribute any Superiority-type violations that are observed to the suggestion that only a single wh-phrase in Comp will be able to c-command and antecedent-govern its trace. Were this to be so then wh-adjuncts and subjects would (most probably) not be able to co-occur raised to Comp and any wh-phrase in need of antecedent-governing its trace would always have to occur in some fixed position within a wh-string.

If there are plausible accounts of Superiority relating to linear ordering and constraints on interpretation which do not connect such violations to the ECP, there are also alternative purely syntactic ways of explaining cases of Superiority, which likewise do not imply or require LF wh-raising in languages like English. One such possibility (returned to in chapter 2 where additional supporting data is presented) is simply to invoke the Economy principle of Shortest Move to account for the difference in acceptability between examples such as 120 and 121 repeated below:

(120) Who$_i$ t_i hid what?
(121) *What$_k$ did who hide t_k ?

Movement of the subject wh-phrase to Comp 120 will be shorter than raising of the object 121` and so should be preferred (and therefore necessary) on grounds

of Economy. This will rule then out examples like 121 quite without reference to any LF movement of wh-in-situ. In fact if in situ wh-phrases did have to raise at LF it is not obvious that notions of Economy would still make any distinction between 120 and 121 - in both cases both the shorter movement of the subject to Comp *and* that of the object would have to occur at some point, and so the net expenditure in terms of economy should be the same in both derivations. Consequently cases of Superiority can (ironically) actually be turned into arguments *against* the LF wh-movement hypothesis.

4.0 Selection, Absorption and Scope

In the last section of this chapter we consider three final theoretical arguments for covert LF wh-raising put forward in Huang 1982 and elsewhere, relating to the notions of Selection, Absorption and Scope.

4.1 Selection

It has been suggested that overt wh-raising in languages such as English may be triggered by a need to satisfy selectional requirements of a predicate subcategorizing for a question. Movement of a wh-phrase to SpecCP may result in identification of a clause as a question, perhaps via percolation of a +wh-feature from the Specifier position directly to CP or else via Spec-head agreement between SpecCP and C^0 and subsequent percolation of the +wh-feature from C^0 to its phrasal projection; such identification of the clause as +wh-interrogative may then be taken to satisfy +interrogative requirements of the embedding predicate. As wh-raising is forced to take place overtly in English-type languages, it is presumed that selectional requirements require satisfaction prior to S-Structure/Spell-Out in such languages (though why this should be so is unclear, if a verb such as *wonder* requires a CP that is +interrogative to result in a well-formed interpretation, this should be a requirement that needs satisfaction only at LF rather than S-structure/Spell-Out):

(131) John wonders what Jane bought t.

(132) *John wonders Jane bought what.

If it is then further naturally assumed that predicates such as wonder, ask etc have parallel selectional requirements across all languages and that such selectional requirements are uniquely met via wh-feature percolation from a Comp position to CP, in languages such as Chinese where no overt wh-movement is attested it can be argued that covert LF raising must take place to bring a wh-phrase to Comp:

(133) Ta xiang-zhidao ni xihuan shei.
he want-to-know you like who
He wants to know who you like.

(134) LF: Ta xiang-zhidao [$_{CP}$shei$_i$ ni xihuan t_i]

There are however two good reasons to doubt the strength of such a 'parallelism' type argument. First of all, it is not clear that one can correctly attribute overt wh-raising to the satisfaction of selectional requirements. In English (and other similar languages), pre-Spell-Out raising of a single wh-phrase to Comp is forced to take place not only in embedded +interrogative CPs but also in matrix clauses where this raising will not satisfy the selectional requirements of any predicate:

(135) Who$_i$ did John see t_i?

If one does attempt to analyze wh-raising as a mechanism to identify a clause as +interrogative, as indeed argued in Cheng's 1991 Clausal Typing Hypothesis, then this would clearly seem to be driven by *clause-internal* identification requirements rather than any imposed from outside - in 135 nothing other than properties of the CP itself would necessitate wh-raising for identification of the CP as

+interrogative. If some explanation of wh-raising (*perhaps* clausal-identification) is therefore anyway required for cases such as 135 , quite independently of whether a +interrogative CP occurs embedded or not, it seems over-redundant to suggest that the same operation of wh-raising is also triggered by a second principle (selection) in just a subset of cases (i.e. where the +interrogative CP is embedded).

If one supposes that +interrogative CPs are indeed subject to a requirement that they be identified as such (following Cheng), a second objection one might raise against the argument for LF wh-raising from selection is that there are ways other than wh-movement that plausibly might result in this kind of clausal identification. Cheng in fact suggests that in languages like Chinese +interrogative clausal-typing is effected by means of wh-question particles base-generated in Comp. If such particles may then percolate (+wh-)interrogative features from their position in C^0 to CP, there would obviously be no need for clausal identification to be duplicated via (covert) wh-raising to SpecCP, and for reasons of Economy none should therefore take place.

4.2 Absorption

Another argument given in Huang 1982 in favour of an LF-movement analysis for in situ wh-phrases relates to the interpretation of multiple-wh questions like 136 :

(136) Who bought what?

As discussed earlier, such a question may normally receive an answer form which consists in a set of pairs, matching values from the range of the raised wh-phrase with values from that of the wh-phrase in situ. It is argued by Huang (and others) that a natural logical representation accounting for the phenomena of paired answer forms in questions like 136 would be one in which the in situ wh-phrase occurs raised into the Comp position occupied by the wh-phrase moved at

S-structure. At LF all wh-phrases in the same +Q Comp would then absorb together to form a single (but internally complex) quantificational element:

(137) [[what$_i$ [who$_k$]][$_{IP}$ t$_k$ bought t$_i$]] → absorbed form:

(138) [[what$_i$ who$_k$][$_{IP}$ t$_k$ bought t$_i$]

We suggest that although 138 may be a logically plausible representation of how such multiple-wh questions may receive interpretation, it is not however a *necessary* representation which forces one to assume that the *only* way in which paired readings may arise is due to an operation of absorption applying to quantificational elements appearing at *a single structural node*. There are other instances of paired answer forms, resulting from the interaction of wh-phrases and universally-quantified NPs, in which it is not standardly assumed that the wh-phrase and the universally-quantified NP undergo any parallel absorption process:

(139) What did everyone buy t?

A: Mary bought a pen, John bought a book, etc

The formal operation of absorption outlined in Higginbotham and May 1981 and adopted by Huang and others assumes that quantificational elements must occur in essentially the same (operator-like) position in order for their mutual quantificational force or commonly shared operators to be collapsed into one complex quantificational unit. Supposing the QP everyone in 139 undergoes QR at LF, this will bring it to an IP-adjoined position (following May 1977/85):

(140) [$_{CP}$What$_k$ [$_C$did [$_{IP}$everyone$_i$ [$_{IP}$t$_i$ buy t$_k$]

At LF the wh-phrase and the universal QP will therefore *not* in fact occur raised together at a single node in the structure, yet such a condition is taken as necessary for absorption to apply, providing the critical argument for why an in situ wh-phrase must actually raise to Comp at LF (as in 136-138). In 140 the

wh-phrase and QP neither occur at one common node nor are they adjacent (and perhaps may be claimed to be separated from eachother by a tense operator did). Despite this, it might still be argued that configurations such as that in 140 somehow *do* satisfy the structural requirements relevant for absorption. May 1985 suggests that ambiguity in relative scope relations will be present where quantificational elements are dominated by the same maximal projections (the Scope Principle), and that domination can be defined in such a way that the wh-phrase and QP in 140 will both be dominated only by CP (with the result that either element may take wide scope over the other). One *could* attempt to suggest that it is this same type of structural relation which is in fact relevant for absorption (and not adjacency/occurrence at a single node), so that what and everyone in 140 will be able to absorb together.[11] However, this will still not account for the possibility of paired answer-forms in examples like 132 below:

(141) What do you imagine that everyone bought t?
A: I would guess that Mary bought a pen, John bought a book, etc

As QR is assumed to be a clause-bound operation, its application in 141 to the universal QP will result in this element being adjoined to the IP of the lower clause. Given that the wh-phrase is raised to SpecCP of the matrix clause, the QP and the wh-phrase will *not* be dominated by the same maximal projections at LF. As paired answer-forms *are* nevertheless possible here they can plainly not be attributed to an operation of absorption applying only to elements that co-occur

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[11] Although it is not clear that quantificational elements containing operators of different types, e.g. a wh-operator and a universal quantifier, could technically give rise to absorption. In the case of wh-absorption it is suggested that wh-operators assumed present in all relevant wh-phrases will be 'factored out' with the result that a single wh-operator will then apply commonly to the restrictions of all wh-elements in Comp:

(1) [[which man$_i$] which girl$_k$ t$_k$ saw t$_i$?
→ [[which x,y [x a man, y a girl]] y saw x]

However in wh-questions potentially resulting in paired answer-forms where a universally-quantified NP is present, it is not possible to factor-out any operator common to both the wh-phrase and QP. Consequently it may be reasonably argued that paired answer-forms may *generally* arise without the need for 'absorption'.

in certain close structural relations.

If such wh-QP examples show that the general possibility of a wh-question answer-form consisting in pairs of values taken from the range of two discrete quantificational elements does *not* necessarily depend on these elements having to undergo absorption at a single position in syntactic structure (or when dominated by the same maximal projections), then it is not unreasonable to suggest that the paired answer-forms possible with multiple-wh questions may also arise without the need for all wh-elements to undergo absorption at a single syntactic node. Consequently, one is *not* forced to assume LF wh-raising in examples like 136 to explain the occurrence of pair-list answers - such types of answer may be argued to result from the same type of non-local process of interpretation that must indeed be available to give rise to paired answer-forms in wh-QP questions.

4.3 Wh-raising and the representation of Scope.

Finally we wish to consider the extent to which arguments relating to phenomena of *scope* may be taken as support for the LF wh-movement hypothesis. It has often been suggested that the overt raising of wh-phrases in languages like English is closely associated with, and in some sense even triggered by a requirement that the scopal properties of such elements be represented explicitly in the structure in which they occur. If this is indeed a *general* requirement on wh-phrases (and perhaps other quantificational elements too) and one which appears to be satisfied via movement to a +Q Comp in certain languages, then it may be argued that all wh-phrases which occur in situ at PF will need to undergo raising to +Q Comp at some point prior to LF and interpretation.

Essentially there are two interconnected notions of *wh*-scope relevant to raising here. The first is that of a wh-phrase relative to one particular +Q Comp rather than another, hence in 142 the in situ wh-phrase may for certain speakers be interpreted as being either directly or indirectly questioned depending on which +Q Comp it is associated with:

(142) Who remembers where we bought which book?

In the former interpretation which book is said to take scope at the higher matrix +Q Comp, in the latter at that of the embedded CP. The overtly-raised wh-phrases who and where by way of contrast may only take scope at the +Q Comps they actually occur in at PF and are interpreted as being directly and indirectly questioned respectively. In this sense the scope of a wh-phrase relative to a +Q Comp is fixed via any movement which the wh-phrase undergoes. The issue of how the scope of in situ wh-phrases may be established relative to a +Q Comp, via movement or some other operation, was partially considered above in section 3.3 on D-Linking (and will be taken up again in chapter 2). A second notion of *wh*-scope which we turn to now is that of a wh-phrase relative to other quantificational elements in its surrounding structure. May 1977/85 suggests that where a wh-phrase occurs in Comp as a result of overt movement its scope relative to other quantificational elements will be computed with direct reference to the raised position it occupies. Huang 1982 then argues that if in situ wh-phrases exhibit the same relative scopal relations as (overtly-)raised wh-elements, this may be taken to result from LF raising to Comp and the computation of the scope of a wh-phrase from its (LF) raised position in a fully parallel way. The questions we intend to approach here are: a) Are the relative scopal properties of overtly-moved wh-phrases really a result of the raised position which they occupy? and b) To what extent is it necessary to assume LF movement to Comp in order to explain relative scope phenomena? If it can be shown that wh relative scope is not necessarily a function of any raised position, then the motivation for assuming covert LF raising to Comp to account for similar scopal relations in the case of wh-in-situ will clearly no longer valid.

It is commonly admitted that wh-questions such as 143 containing a universally-quantified NP subject and a wh-phrase object exhibit an ambiguity not present where the wh-phrase is instead subject and a universal QP the object:

(143) What$_i$ did everyone buy t_i ?

(144) Who$_i$ t$_i$ bought everything?

In 143 either the QP or the wh-phrase may take wide scope relative to the other, so that an answer-form may consist in a single value for the wh-phrase (wide scope of the wh-phrase), or a set of pairs (wide scope of the QP). This latter wide scope interpretation of the universal QP is however not available in 144 and an answer form may only consist in a single value corresponding to the wh-phrase. Such examples have received considerable attention in the literature, the question being how the scopal ambiguity arising in sentences like 143 but not 144 may be linguistically encoded. As mentioned briefly in section 4.2 above, May 1977/1986 suggests that quantificational elements such as *everyone* undergo an LF operation of Quantifier Raising, which in the case of 143 will raise the QP to an IP-adjoined position, and that the Scope Principle will then allow for either *what* or *everyone* to take wide scope relative to the other in virtue of arguably being dominated by the same maximal projections. Regarding 144 , May claims that QR adjoining the object QP to IP will not be possible as in this case it would cause an ECP violation of the subject wh-phrase trace (see May 1985 for details); consequently the QP will adjoin to *VP* instead. In such a position it will *not* be dominated by the same maximal projections as the wh-phrase in SpecCP and as a result will only have narrow scope relative to *who*. May thus sees scopal relations between quantificational elements as resulting from the structural positions they occupy within a syntactic tree (at the level of LF), and crucially that it is with regard to the raised position of a wh-phrase in Comp that its scope is computed.

Turning now to Chinese and examples involving quantificational phrases and (in situ) wh-phrases, Huang argues that the latter consistently take wide scope over the former, even in cases where a wh-phrase is c-commanded by a QP at S-Structure:

(145) Mei-ge-ren dou mai-le shenme?
everyone all buy-Asp what
What did everyone buy ?

In this respect wh-phrases are argued to differ quite significantly from other quantificational elements in Chinese, as the structural relation of c-command obtaining between other types of quantificational items at S-structure *does* in fact encode the scopal relation holding between them; that is, where one QP c-commands a second QP at S-structure the former will necessarily also have wide scope over the latter. In order to explain the apparent wide scope property of wh-phrases even when c-commanded by other QPs at S-Structure, Huang argues they must be analyzed as undergoing LF-raising to a Comp position from which they will c-command (but critically no longer be c-commanded by) any other quantifier phrases occurring in a clause. He suggests that because overt wh-movement may be taken to give rise to and allow for the potential wide scope interpretation of wh-phrases in languages like English, it is plausible to argue that the wide scope interpretation of wh-phrases in Chinese is also a result of the same type of raising. Hence, like May, Huang is suggesting that the scopal properties of a wh-phrase relate to the actual position a wh-phrase occurs in at LF, and that this will be a +Q Comp in Chinese just as in English (and by hypothesis all languages). Huang does concede that there might be ways to encode the scope of in situ wh-phrases other than via covert *movement*, perhaps through co-indexation of such elements with a +Q Comp, but argues that a movement analysis is to be preferred for two basic reasons. Firstly, if movement may be taken to be the means by which wh-scope is established in languages such as English, then a certain cross-linguistic uniformity may be captured if it is suggested that it is also movement (albeit covert) that gives rise to wh-scope in languages where wh-phrases occur in-situ (and no additional mechanisms for the representation of such scope need therefore be posited for wh-in-situ). Secondly, it is argued that the encoding of wh-scope via hypothetical co-indexation with Comp might in fact be nothing more than a purely notational equivalent to the claim that there is covert raising, and

that if movement is already attested to affect wh-phrases in certain languages, then a movement analysis of wh-in-situ scope representation should indeed be preferred to any other formal equivalent such as co-indexation of an in situ wh-phrase with Comp.

Again if the relative scopal properties of wh-phrases are thus attributed to some raised position in a +Q Comp, it must nevertheless be added that there is no claim that a required wide scope interpretation of wh-phrases (in Chinese or other languages) actually triggers wh-movement, whether overt or at LF, just that this is a reading which may result from wh-raising. Were the establishment of a certain scope relative to other quantificational elements to be the underlying motivation and trigger for wh-movement, one would predict that there would be *no* raising of a wh-phrase where a reading of narrow scope relative to some other QP was intended, yet this is not the case. Example 143 above is ambiguous between a wide and a narrow scope reading of the wh-phrase relative to the QP everyone; were wh-raising to be a mechanism solely employed for the indication of *wide* scope (of a wh-phrase), one would expect that a speaker intending an unambiguously narrow scope reading in such an example would choose to leave the wh-phrase in situ within the c-command domain of the QP subject, but: 'Everyone bought what?' is not a standardly acceptable alternative to 143 . Similarly, if wh-movement were to be triggered by a need to establish relative scope in general, then in a sentence containing no other quantificational elements relative to which the wh-phrase might be required to establish a scopal relation one would predict that wh-raising should not (be required to) take place, but such is again not the case, vis: '*John saw what?'

Aoun & Li 1993 propose an account of wh-relative scope relations that is in part significantly different from Huang 1982 and May 1977/85, and which we will argue may be adapted to eliminate the need for covert raising of wh-in-situ from the assessment of wh-scope. Essentially it is suggested that the scope of a wh-phrase relative to other quantificational elements is computed with reference not only to the raised positions of wh-elements in Comp but also with regard to the position of traces of wh-movement. Aoun & Li arrive at such a proposal in order

to provide an account of various wh-scope cases which remain unexplained in the system of relative scope resolution put forward in May 1985.

It will be recalled that May 1985 ascribes the possible wide scope of either wh-phrase or universally-quantified subject in examples such as 143 to the Scope Principle applying at LF after operations of Quantifier Raising have taken place:

(146) What$_i$ did everyone buy t_i ?

LF: [$_{CP}$what$_k$ did [$_{IP}$everyone$_i$ [$_{IP}$t$_i$ buy t_k]]]

As both wh-phrase and QP can technically be argued to be dominated by the same set of maximal projections at LF, it is suggested that either element may take wide scope over the other, this resulting in the two possible interpretations of the sentence.

While the Scope Principle may be argued to provide an account of the scopal ambiguity present in examples like 146, it does not however appear able to explain the interpretations available in other more complex sentences such as 147 :

(137) What$_i$ did the teacher suggest that everyone read t_i ?

Given the common assumption that QR is a clause-bound operation, everyone will here only raise to adjoin to the lower clause IP; at LF it will therefore *not* be dominated by the same set of maximal projections as the wh-phrase in the matrix, and according to the Scope Principle should consequently not be able to take wide scope over the latter. Nevertheless the sentence is ambiguous in the same way that 146 is, allowing for a wide scope reading of either the wh-phrase or the QP. Aoun & Li suggest that this wide scope interpretation of the QP is in fact a function of the c-command relation existing between the QP and the (A'-)*trace* of the wh-phrase. If c-command of a trace of wh-movement may therefore be taken as a sufficient condition for a QP to take scope over a wh-phrase, then the wide scope reading of the QP in examples like 146 may also be claimed to result from

the QP c-commanding a wh-trace. The Scope Principle is therefore argued both to be unable to account for cases like 147 and to be unnecessary for those like 146 once a wh-trace-based approach is adopted. Of particular significance here is the demonstration that it does not appear possible to compute all wh-scope relations solely with reference to the raised position of a wh-phrase and that for a large number of cases it is actually the trace position of a wh-phrase that is critically important.

A further consequence of assuming the above view of QP wide scope (which Aoun & Li do not take up or explore) is that QR may perhaps no longer seem necessary to establish such wide scope - in both 146 and 147 the QP will c-command the wh-trace from their S-Structure/Spell-Out positions before and without the need for any covert raising. Unambiguous examples such as 148 may also be given simple explanation on the basis of the S-Structure c-command relation existing between the QP and the trace of wh-movement, the former not c-commanding the latter and hence not being able to take scope over the wh-phrase:

(148) Who_i t_i bought everything?

If one does assume QR in 148 then accounting for the unambiguity of such cases is considerably more complicated. First of all it has to be stipulated that the object QP may only adjoin to VP and not to IP (IP-adjunction would result in the QP c-commanding the trace of the wh-phrase in SpecIP and QP wide scope over the wh-phrase should then be possible). Secondly, if QR of an object NP is indeed restricted to adjunction to VP, one must also add that it is only the traces of *wh*-movement which will count for relative scope assessment, as from a VP-adjoined position the QP object would c-command an *NP*-trace of the subject wh-phrase in SpecVP after the latter has undergone raising to SpecIP:

(149) LF: $[_{CP}\text{Who}_i\ [_{IP}t_i\ [_{VP}\text{everything}_k\ [_{VP}t_i\ \text{bought}\ t_k]]]]$

If Quantificational Phrases are however not subject to any operation of QR (and certain evidence against QR has already been presented in section 2.23) then a simpler account of their potential wide scope interpretations may be possible, suggesting that the occurrence of any element or any type of trace in the c-command domain of a QP will allow for the QP to take scope over that element.

Aoun & Li also argue, contra Huang 1982, that Chinese sentences like 145 are ambiguous and that there is in fact a reading available in which the universal QP takes scope over the wh-phrase:

(145) Mei-ge-ren dou mai-le shenme?
everyone all buy-Asp what
What did everyone buy ?

Here essentially the same account as outlined above can be invoked to explain the possible wide scope interpretation of the QP; the QP subject will c-command the position occupied by the wh-phrase and so naturally may take scope over it. In all the cases of wide QP scope relative to a wh-phrase reviewed, it can therefore be claimed that it is the base-generated or trace position of a wh-phrase which serves as direct input for relative scope assessment and not any position in a +Q Comp; in wh-in-situ cases like Chinese 145 it would *not* seem necessary to posit LF wh-raising in order to explain possible narrow scope interpretations of wh-phrases.

Now however, one needs to consider how the *wide* scope readings of wh-phrases relative to QPs may be explained. Aoun & Li basically assume that the wide scope of one element over another is always a function of the first element c-commanding the second. Where an in situ wh-phrase is interpreted as having wide scope over a QP it does not c-command at S-Structure it therefore must be assumed to c-command the QP at some other derivational point prior to interpretation. Aoun & Li consequently also presume that in situ wh-phrases undergo LF raising to Comp, just as in Huang 1982.

We would like to suggest a different view of the wide scope interpretation

of wh-phrases relative to universal QPs that does not entail the former having to stand in any c-command relation to the latter, hence that LF wh-movement is not in fact necessary to account for wh wide scope readings in examples like 145 . This first requires a brief reconsideration of precisely what is understood by the term 'wide scope' and will result in the suggestion that the wide scope of a QP over a wh-phrase is in essence quite different from that of a wh-phrase relative to a QP.

Where a universally-quantified NP is interpreted as taking wide scope over a wh-phrase as in 150, this will give rise to pair-list answer-forms in which a value is drawn from the range of the wh-phrase for every value in that of the QP. There is therefore some direct interaction between the potential referents of the wh-phrase and those of the QP:

(150) What did everyone buy?
A: John bought a book, Jane bought a pen, etc

Chierchia 1992 suggests that a structured trace will be left at the wh-extraction-site in 150 and that the universal QP will then bind into the N'/NP of such an NP/DP trace, this N'/NP constituting the range of the wh-phrase. However one chooses to represent the quantificational interaction of QP and wh-phrase in such QP wide scope readings, it has to be admitted that there is indeed some direct *dependency* between these elements, a pair-list answer-form being a function of both wh-phrase and QP.

This kind of interaction or linking of the wh-phrase and universal QP is however completely absent from the wh wide scope reading in examples like 150 . Wide scope here does not result in any quantificational dependency of the two elements but rather a fully *independent* reading of the wh-phrase. As such it is like the specific independent interpretation of indefinite NPs in sentences like 151 (noting this interpretation of indefinites is also commonly referred to as a wide scope reading):

(151) Everyone saw a (specific) film.

Possible interpretation: There is one specific film that everyone saw.

We suggest that the wide scope reading of wh-phrases and the specific independent interpretation of indefinite NPs may arise in essentially the same way, not as a result of movement to a position c-commanding other QPs present, but simply in virtue of selecting an interpretation of the wh-phrase/indefinite in which it is not dependent on any other QP, this being quite possible even where the indefinite/wh-phrase remains within the c-command domain of other QPs.

Considering the specific 'wide scope' interpretation of indefinite NPs first, there is strong evidence that this cannot result from raising to a position higher than other QPs present. Firstly such raising would have to be analyzed as an instance of QR which is assumed to be clause-bound, yet indefinites in embedded clauses may be interpreted as specific and taking wide scope relative to QPs occurring in higher clauses:

(152) Everyone thought that John had bought a specific book.

QR in 152 should clearly not be able to raise the indefinite beyond the first clause to a position c-commanding the universal QP yet it may have the wide scope interpretation associated with such a configuration. Indefinites may also occur within extraction islands and be interpreted as taking 'wide scope' over a QP external to the island:

(153) Everyone thought that the fact that a specific doctor had diagnosed Jane insane was quite irrelevant.

Again it is implausible to suggest that wide scope here is a result of movement of the indefinite out of the containing island to a position c-commanding everyone. A third related case which can be shown to strongly endorse the claim that movement is not responsible for wide independent scope is illustrated in 154 ,

taken from Cormack & Kempson 1991:

(154) Every teacher has sent in two potentially damaging reports that a specific student of mine has been cheating.

In 154 the indefinite a specific student of mine may have wide scope relative to the subject QP every teacher at the same time that the latter is interpreted as taking wide scope over the CNP two reports.. which contains the indefinite NP. Here it can not be said that the indefinite extracts for wide scope over the subject QP, as its containing CNP is an island for movement, nor may one propose that the indefinite achieves such wide scope perhaps via some Pied Piping operation in which the whole CNP would raise above the subject QP (thus attempting to avoid the island/extraction problem) as the subject QP may in fact take scope over the CNP (hence the latter must remain in situ c-commanded by the subject).

Cormack & Kempson 1991 further show that specific indefinites do not always have total wide scope with regard to all other quantificational elements in a sentence in the way that proper names do; if they always did have such 'widest scope' then it might be possible to argue that this would somehow be a non-quantificational reading of the NP and therefore not a function of QR apparently being non-clause-bound and violating island constraints. Specific indefinites may indeed have wide scope relative to one element in a sentence but also narrow scope relative to another, hence indicating that such specific readings are quantificational in nature. In 154 there is an interpretation available in which the indefinite is construed as specific and taking wide scope relative to its containing island but narrow scope relative to the subject QP: 'For each of the teachers there is some specific student of mine about which he has sent in two reports.' The possibility of such readings shows that specific NPs do interact scopally with other quantificational elements and cannot simply be claimed to be name-like in their properties.

Thus it may reasonably be concluded that the specific 'wide scope' interpretation of indefinite NPs is not a result of any movement taking place to

raise such elements out of the c-command domain of other QPs, but is instead available where the indefinite remains in situ (and hence may not c-command those QPs over which it has wide scope). Such wide scope readings can therefore be seen as different in nature from the wide scope interpretation of universal QPs as this latter type of wide scope does in fact require that the QP c-command any element over which it is understood as taking scope. Comparing 155 with 152 and 156 with 154 it can be seen that in certain instances where an indefinite may have wide scope over a higher element (the matrix subject in 152 and the CNP in 154) it is however not possible for a universal QP to take wide scope over elements in the same structural positions (as the QPs will never c-command these elements):

(155) A student thought that John had helped everyone.

(156) John sent in a report that every student of mine had been cheating.

In 155, the QP everyone may not take scope over a student, and in 156 every student may not have wide scope over its containing CNP.

We would therefore argue that in some sense it is confusing to apply the same cover term of wide scope to the two differing types of interpretation which may result when a universal QP c-commands an indefinite NP as this may be taken to imply that possible wide scope readings of the universal QP and of the indefinite NP should in both cases be analyzed as resulting from the same mechanisms and necessary relation of c-command (requiring raising of the indefinite to a position c-commanding the universal when it is understood to take wide scope). While it may be suggested that a universal QP understood as taking wide scope over an indefinite must indeed c-command this NP in order to distribute over it and hence allow for the reference of the indefinite NP to be taken as dependent on that of the universal, there is no sense in which an indefinite NP with wide scope interpretation should need to c-command a universal QP in order to quantify over its reference in any parallel way. The

specific reading of an indefinite NP is essentially one where the indefinite may be interpreted as quantificationally *independent* of other QPs present in its immediate structure; although it could perhaps be argued that an indefinite might need to occur in some position outside the c-command domain of other QPs in order to be interpreted as referentially-independent of these QPs, the data reviewed above clearly suggest that this is not the case, and that an indefinite NP c-commanded by another QP may either be taken as dependent on this QP (its 'narrow scope' reading) *or* specific and independent (wide scope) without any raising to a position higher than the QP.[12]

We would now like to suggest that the wide scope reading of wh-phrases relative to universal QPs arises in the same way as that of specific indefinite NPs. Where a universal QP takes wide scope over a wh-phrase this results in pair-list answer-forms, as discussed above, and the reference of the wh-phrase is in part dependent on that of the universal, just as the reference of an indefinite NP may be dependent on that of a universal QP where the latter is interpreted as taking wide scope. However, the wide scope reading of a wh-phrase over a universal QP is one in which its reference is not determined by or a function of values in the range of the QP and hence is an 'independent' interpretation like that of a specific wide scope indefinite NP. As with the specific interpretation of indefinites we suggest that the wide scope independent reading of wh-phrases may arise without the need for a wh-phrase to occur raised in a position where it would c-command those QPs it is understood to take scope over. Thus in the case of wh-in-situ such as (136) repeated below, there will be no requirement that the wh-phrase undergo covert LF raising to Comp in order to receive interpretation as quantificationally

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[12] Working in the framework of Labelled Deductive Systems (LDS) Kempson 1995 suggests that indefinites are variables that in fact must always be dependent on some element (hence are not technically 'independent' when interpreted as specific). In the narrow scope reading of the indefinite NP in (i) its interpretation will be directly dependent upon the universal QP:

(i) Everyone read some book.

In its wide scope reading Kempson suggests that it will be bound by or dependent for its reference upon the equivalent of a spatio-temporal operator relating the token of a book to the time and place of the action. Within a GB/Minimalist framework one might perhaps translate this into binding by a Davidsonian event operator associated with an (event) variable in Infl.

independent of the universal QP:

(145) Mei-ge-ren dou mai-le shenme?
everyone all buy-Asp what
What did everyone buy ?

Where *overt* wh-raising takes place as in English 150 , a wh wide scope reading need not be attributed to the position of the wh-phrase in Comp c-commanding the clause, but can instead be argued to relate to its trace position, suggesting that a trace-copy left in the wh-extraction-site may be interpreted as functionally-independent of any c-commanding QP just as wh-phrases in situ or indefinite NPs may.

If the narrow and wide scope readings of wh-phrases relative to universal QPs may be argued to parallel those potentially occurring with indefinite NPs and universal QPs, being interpretations of the wh-phrase/indefinite that are either functionally-dependent on the QP or conversely determined independently of the QP, and if it can be shown that the wide scope independent readings of indefinites must indeed be possible with these elements occurring *in situ* within the c-command domain of a universal QP (and not result from any covert LF raising operations), then one has reasonable grounds to suggest that wide scope independent readings of wh-phrases may also arise without the need for any extraction from the c-command domain of a universal QP. In addition to this parallelism-type argument there is however other good evidence for assuming and justifying a non-movement approach to the wide scope readings of wh-phrases in-situ. This concerns the potential scopal interaction of multiple quantificational elements in examples such as 157 taken from Fiengo et al 1988, and is evidence against a raising account of *wh* wide scope of the same type that was earlier presented in connection with indefinite NPs and their possible wide scope readings (see example 154):

(157) mei-ge-ren dou mai-le [yi-ben [shei xie] de shu]
everyone all buy-Asp one-volume who write Rel book
Everyone bought a book that who wrote?

Fiengo et al claim that 157 allows for the following possible interpretation:

(158) Who is the x, such that everyone bought one book or another that x wrote?

In this reading the universally-quantified NP subject has wide scope relative to the indefinite/numerically-quantified CNP, but the wh-phrase contained within this CNP has wide scope relative to the subject, thus giving the relative scopal ordering: *who>everyone>a book that...* The critical question here is how the wh-phrase may be understood as taking scope over the subject NP. As it occurs in an extraction-island it is implausible to claim that the wh-phrase undergoes direct movement to the +Q Comp of the sentence (from where it would c-command the subject) as this should violate Subjacency. It is also not possible to suggest that raising to Comp is effected indirectly via some Pied Piping operation (as per Nishigauchi 1986) in which the entire CNP island would raise to SpecCP (with the result that the wh-phrase would remain inside the island throughout the derivation and Subjacency would not violated) because the subject is interpreted as having wide scope over the object CNP (hence the object must be c-commanded by the subject at LF).[13] Therefore if movement cannot be claimed to give rise to the wide scope reading of shei who in 157 , it seems one must concede that such wide scope independent interpretations are possible even where a wh-phrase occurs (and remains) in situ within the c-command domain of a universal QP, just as has been argued is the case with indefinite NPs and specific wide scope readings.

Finally certain evidence from Bahasa Indonesia already discussed in section 2.25 may be taken as further support for the view that wide scope readings of wh-

[13] Fiengo et al present cases such as 157/158 among various others as strong argument against the Pied Piping Hypothesis account of wh-in-situ in extraction islands.

phrases are not necessarily a function of raising and occurrence of a wh-phrase in Comp. In section 2.25 it was noted that examples such as 88 with a wh-phrase raised to a position that c-commands a universal QP are ambiguous, with the wh-phrase potentially taking either wide or narrow scope relative to the QP, but that sentences like 87 with a wh-phrase in situ and c-commanded by a universal QP are not so, there only being an interpretation of wh wide scope:

(88) Siapa$_i$ yang setiap orang cintai t_i?
who yang every person love
Who does everyone love?

(87) Setiap orang men-cintai siapa?
every person trans-love who
Who does everyone love?

It was argued that if the in situ wh-phrase in 87 were to undergo LF raising to a position equivalent to that occupied by the wh-phrase in 88 then one should expect that 87 would also exhibit the ambiguity and dual readings found possible in 88 . As 87 is however unambiguous, it must therefore be assumed that no such LF raising takes place. Given that the wh-phrase in 87 is interpreted as taking (obligatory) wide scope over the universal QP, but arguably does not raise at LF, it can be concluded that such a wide scope independent reading here *cannot* be a function of the wh-phrase occurring in a position outside the c-command domain of the QP (as a result of covert movement) and must arise with the wh-phrase remaining in situ in its PF position. Consequently the *general* possibility of a wide scope interpretation of wh-phrases must be allowed for even where such elements remain c-commanded by other QPs at LF.

This proposal that wh-phrases may be interpreted *in situ* as having wide scope relative to a c-commanding QP has three main results. First one is obviously not forced to assume any covert LF raising to Comp to account for such wide scope; secondly one may capture the intuition that the wide scope

interpretations of wh-phrases and indefinite NPs are essentially of the same 'independent' type and arise in the same way (without any movement being necessary); thirdly it is possible to relate *all* relative scopal readings of wh-phrases to their in situ or trace positions - earlier in this section it was argued, following Aoun & Li 1993, that *narrow* scope interpretations may naturally be accounted for on the basis of wh-trace or wh-in-situ positions; now it has been suggested that wh *wide* scope readings may also be solely related to these rather than any raised positions. If such a position may be maintained, then arguments relating to relative scope phenomena in general do not provide strong support for the LF Wh-Movement Hypothesis, and a coherent account of wh-scope relations may be offered without the need to assume such covert raising operations.

5.0 Summary

In this chapter we have argued that wh-phrases occurring in situ at PF remain in such positions throughout a derivation until interpretation, contra proposals made frequently in the literature. Although it was seen that a number of theoretical arguments may indeed be presented as justification and support for an analysis of LF wh-movement, an LF-raising approach is also known to give rise to serious problems of locality and appears quite irreconcilable with the potential distribution of wh-phrases in situ in islands. We therefore attempted to see if further evidence of other types might suggest that the relation of an in situ wh-phrase to a +Q Comp is not in fact one of (LF) movement, and provided a range of cross-linguistic empirical evidence and theoretical argumentation from a variety of construction types strongly indicative of just such a conclusion. We then reconsidered those arguments taken as primary motivation for the LF Wh-Movement Hypothesis and endeavoured to show that in all such cases there exist alternative and plausible means available to account for the linguistic phenomena on which such arguments are based without the need to assume covert wh-movement. If LF wh-raising can consequently be taken both to be theoretically unnecessary and (virtually) impossible to maintain in certain instances, then the

interpretation of wh-phrases in *in situ* positions must be allowed for as a *general* possibility in language; the phenomenon of *overt* wh raising where attested may therefore not be attributed to properties of language invariably requiring the construction of a certain type of input form to interpretation as has been suggested in the past. Why such overt raising *must* however take place in certain languages and how the licensing of wh-elements may relate to movement are questions which will now be taken up and closely examined in the chapters to come.

Chapter Two

Wh-movement and Feature-checking

1.0 Introduction

In chapter one it has been argued that wh-phrases occurring *in situ* at PF/Spell-Out do not undergo any covert raising to Comp at LF (at least in all the many languages under consideration there) and may receive interpretation in their in situ positions, this contra assumptions and claims consistently made within the Government and Binding framework. Here we examine why it is that overt raising of wh-phrases is nevertheless forced to take place in various languages, despite the clear expectation that the interpretation of such elements should also theoretically be possible in situ in non-Comp positions, and hence not require any movement. Considering the issue primarily from a Minimalist point of view, we will initially concur with the general approach in Chomsky 1993/95 that cross-linguistic variation with regard to wh-raising should indeed be accounted for in terms of variation in purely formal *licensing* conditions on wh-elements - the checking of wh-features. However, a close examination of the patterning of movement in wh-questions across a range of languages will then in fact be shown to pose a serious challenge to certain commonly-held central assumptions concerning the nature of feature-checking and movement outlined in Chomsky 1993/95, consequently arguing for a number of non-trivial revisions to Checking Theory and also having potentially wider implications for the Minimalist model as a whole.

On the basis of evidence from Iraqi Arabic, Hindi and various East European languages it will be concluded that *all* wh-phrases are in need of licensing and that it is (wh-)features carried by wh-phrases themselves which are in need of checking in addition to any present on a +Q Comp (this being further borne out by Partial Wh Movement structures in German). Such a conclusion runs counter to suggestions in Chomsky 1995 that *wh*-features only require checking when strong and introduced on a functional head C^0, and that in general +interpretable features like *wh* will not need checking on any XP

which bears them; *wh* is instead shown here to be just like -interpretable *case* features (for example), necessitating checking in all instances. The conclusion also goes against assumptions implicitly made in Chomsky 1993 that only a single wh-phrase in any multiple wh question will carry wh-operator features to be checked by a +Q Comp.

Due to further strong and compelling evidence from Iraqi Arabic and Hindi and the patterning of multiple wh questions in English-type languages, a highly significant second conclusion will then be drawn that feature-checking is *not* in fact restricted to occurring solely within the strict locality of Spec-head/head-adjoined configurations, as argued for in Chomsky 1993/95, but must also be possible within wider domains, in the case of *wh* often between a +Q Comp and wh-phrases in fully *in situ* positions. In various instances such 'long-distance' checking/licensing relations will nevertheless still be shown to be constrained by certain locality restrictions (though these may frequently and importantly *not* be reduced to constraints on any hypothetical covert movement), and it will be suggested that the domain within which *wh*-features carried by (all) wh-phrases are checked by a +Q Comp is actually subject to a range of variation across languages.

In multiple wh questions in English-type languages it will be claimed that secondary wh-phrases are feature-checked in situ and that the wh-checking domain therefore consists in (virtually) all sentence-internal positions c-commanded by a +Q Comp. This then immediately leads back to the question of why it is that a (*primary*) wh-phrase is forced to undergo raising to Comp (as wh-checking of all wh-elements is expected to be possible in situ), and relatedly why no raising of wh-phrases is attested in languages like Chinese. We will suggest that this kind of (wh-)movement takes place in order to trigger a *potential* licensing head (here C^0) as an *appropriate* licensor of one type of feature or another, such triggering typically being necessary where the potential licensing head is ambiguous and underspecified as to the particular type of features it will licence in any instance (in English C^0 ranging over +wh+Q, yes/no+Q, and (pure) focus). Raising will then disambiguate and determine the head as a licensor for one *specific* feature-type, and will not occur in languages where C^0 may be inherently +wh in virtue of a +wh+Q morpheme existing in the language. Ultimately in fact, wh-movement will be

argued to take place for two different reasons, firstly for the above-mentioned triggering of Comp as a wh-licensor (English), and secondly in order that wh-phrases occur within the licensing domain of a +wh+Q Comp, this being the case of apparently optional wh-raising in Iraqi Arabic and Hindi, and various languages of Eastern Europe.

Having thus set forth a certain view of movement and the locality of feature-checking based on the licensing of wh-phrases in wh-questions, we then attempt to show how such an approach may yield accounts of various other related phenomena, including wh-island violations, Superiority, focus-raising (and focus in situ), and differences in multiple wh-questions between Chinese and Japanese. We also examine how the claim that 'non-local' feature-checking must be permitted as a general possibility in language may be reconciled with previous arguments that such relations are universally restricted to Spec-head and head-adjoined configurations, noting that *if* it is possible to suggest that other instances of feature-checking taken to be effected via LF raising may instead be re-analyzed as taking place 'non-locally', then it may be possible to dispense entirely with the need for any LF movement and consequently with LF itself as a level of derivation non-isomorphic to Spell-Out. A further significant consequence of this would also be that the over-riding Economy Principle of Procrastinate would no longer seem to be required to explain why covert LF movement (for licensing) must always be assumed to be preferred to overt raising - *all* checking of features would in fact take place prior to Spell-Out; it hence becomes possible, theoretically at least, to entertain a Minimalist model of language with many quite different global properties from those standardly assumed at present.

2.0 Iraqi Arabic

Earlier in chapter one it was observed that various convincing arguments from *locality* can be given against the suggestion that wh-phrases undergo LF raising to Comp. As wh-phrases consistently seem able to appear in situ in islands for overt extraction, any analysis of direct LF movement to a +Q Comp would have to admit that pre-Spell-Out applications of movement may be subject to locality constraints which do not affect those taking place after Spell-

Out, a conclusion which for principled reasons must be avoided in the Minimalist Framework. Here we consider Iraqi Arabic and locality-related evidence against the LF Wh Movement Hypothesis of a different and indeed opposite type - wh-phrases are shown *not* to be able to occur in situ in certain environments which freely do allow for overt extraction. If wh-phrases needed only to raise to Comp by LF to fulfil a constraint on interpretation that relevant operator-variable chains be constructed, there is no reason why it should not be possible to satisfy such requirements in these cases, as no barriers to movement are present (and the ungrammaticality of such examples would consequently remain unaccounted for). It will therefore be concluded that wh-elements are instead subject to some purely *formal licensing requirement* - wh-feature-checking - and that all wh-phrases must satisfy this requirement *prior to Spell-Out*. Movement at LF, though theoretically possible, will not take place as the crucial well-formedness condition on wh-phrases must always be met in the overt syntax. Various strong consequences for Chomsky's 1993/95 theory of feature-checking are then seen to follow; in particular, it will be argued that feature-checking must be possible 'long-distance' and non-Spec-head-locally, and that *all* wh-phrases must be licensed/feature-checked by a +wh+Q Comp. Subsequent sections relating to other languages will give rise to the same conclusions on the basis of similar evidence.

2.1 Wh-in-situ, tense and movement

The critical paradigm leading to these conclusions is given in examples 1-4 below. In Iraqi Arabic[1] all wh-phrases may occur fully well-formed in situ at Spell-Out both in matrix and embedded clauses, there being no requirement that a +Q Comp be filled by a wh-element prior to Spell-out (unlike English-type languages):

[1] All Iraqi Arabic data here is taken from Wahba 1990 and Ouhalla 1994.

(1) Mona shaafat *meno*?
Mona saw whom
Who did Mona see?

(2) Mona raadat [tijbir Su'ad [tisa'ad *meno*]]?
Mona wanted to-force Su'ad to-help who
Who did Mona want to force Su'ad to help?

However, although example 2 is fine where the wh-phrase remains in situ in an embedded *non-finite* clause, a wh-phrase significantly may *not* occur in situ within an embedded *tensed* clause when relating to the +Q Comp of a higher CP:

(3) *Mona tsawwarat [$_{CP}$Ali istara *sheno*]
Mona thought Ali bought what
Intended: What did Mona think that Ali bought?

The relevant generalisation appears to be that a wh-phrase must occur in the 'tense domain' of a +Q Comp in order to be licensed, where a tense domain may be understood to consist of a tensed/+finite clause and any non-finite clauses dependent on the tensed clause. In 3 the bracketed CP constitutes the first tense domain including the wh-phrase sheno 'what', but as this +finite CP does not contain a +Q Comp (and the +Q Comp is in a higher tense domain/+finite clause - the matrix CP), the result is that the wh-element is not licensed. In example 2, as the lower embedded clauses are all -finite, the first CP to count as a tense domain including the wh-phrase meno 'who' is actually the entire sentence, and as this tense domain may also potentially contain a +Q Comp the sentence is well-formed.

Although Huang 1982 and others have noted that (certain types of) wh-*adjuncts* may be restricted by extraction islands, generally in the past it has been assumed that the distribution of wh-phrases in situ is virtually unconstrained by any notion of locality and that argument wh-phrases are free to occur in all kinds of environments which block overt movement. Here however the distribution of in situ wh-phrases in Iraqi Arabic is seen to be

restricted in a significant and previously unattested way, the occurrence of +tense in a clause clearly appearing to make a domain opaque for (licensing of) wh-phrases.

If one presumes that wh-phrases in situ at PF need undergo raising to Comp at LF, one might perhaps attempt to suggest that the ungrammaticality of sentences such as 3 is due to this hypothetical movement somehow being blocked and argue that the restrictions on the distribution of wh in situ observed here are simply related to constraints on LF movement. This type of position has commonly been adopted to account for other noted restrictions on the occurrence of in situ elements, such as the ban on *why / how* adjunct types in islands in Japanese/Chinese cf. Huang 1982. However, tensed CPs are generally *not* islands for any syntactic movement and it can be shown that they do not block long-distance movement in Iraqi Arabic either. Furthermore and of considerable importance, not only *may* the wh-phrase in 3 undergo raising to the matrix from the embedded tensed CP, but when it does do so the result is a fully well-formed question:

(4) *Sheno*$_i$ tsawwarit Mona [Ali ishtara t_i]?
what thought Mona Ali bought
What did Mona think Ali bought?

Sentences such as 4 thus constitute direct evidence that movement of wh-phrases in Iraqi Arabic is in fact potentially unbounded and the tensedness of a clause does not block movement in any way (as well as leading to a number of other highly important conclusions). It therefore cannot be maintained that the ill-formedness of examples like 3 lies in (hypothetical) movement of the wh-phrase to Comp at LF being illicit, noting that there is no non ad hoc way to suggest that +tense constrains post-Spell-out movement in a way that it does not any movement occurring prior to Spell-out. Besides being purely stipulatory and having no intuitive justification other than to explain the perceived locality on wh in situ here, proposals along such lines would suffer from the same theory-internal problem as previous approaches to Subjacency which simply stated that Subjacency applies to constrain pre S-structure movement but not that occurring at LF. Within the Minimalist Program computational principles

and the constraints upon them are seen to apply uniformly throughout a derivation, and any suggestion that a principle/constraint apply only prior to or after Spell-out effectively implies the existence of a level of S-structure relative to which constraints/principles might be stated, a result the Minimalist Program is explicitly trying to avoid for good and principled reasons. The Minimalist Program instead attempts to motivate linguistic variation in terms of properties of the interface levels, PF and LF, and it is here we believe that one should look for possible explanation of the above phenomena. The observed data indicate that not only is movement of an XP *generally* possible out of tensed CPs, but also that significantly in the case of wh-phrases this may lead to full acceptability in certain otherwise ungrammatical examples (3 vs. 4), i.e. not only is movement possible, but it may also have certain clear *effects* relative to wh-elements.

If *overt* pre-Spell-out movement of the wh-phrase in 4 is possible, it must then be presumed that nothing should block parallel movement at LF. If a sentence with a wh-phrase occurring in situ in an embedded tensed CP (as in 3) is ungrammatical but becomes fully acceptable when this wh-phrase has been raised *overtly* into the matrix +Q Comp it then seems one can make either of two conclusions. Given that 4 is a possible well-formed configuration for a wh-question whereas 3 is not, it might be suggested that post-Spell-out raising of wh-elements is simply not available as an option, although not blocked for syntactic reasons (i.e. if the wh-phrase in 3 *could* raise at LF to the position it occupies in 4 it might naturally be predicted that the sentence should be acceptable). Much evidence presented in chapter one has already suggested that in situ wh-phrases quite possibly do not raise at LF. However there seems to be no principled reason why this should be the case; if other syntactic constituents may raise at LF and if Spell-out is just one point in a continuing uniform derivation, there is no obvious justifiable explanation for the claim that post-Spell-out movement is barred and unavailable for a subset of syntactic elements carrying the feature +wh. Furthermore this would again be introducing a claim (or rather stipulation) relative to Spell-Out,[2] hence recognising it as a level of representation, which must be avoided.

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[2] I.e. that wh-phrases may raise prior to Spell-Out but not afterwards.

A possibility more compatible with recent theoretical developments and having justification within current Minimalist assumptions would be to suggest that raising of the wh-phrase in 3 is not blocked from occurring post-Spell-out at LF but would then be occurring *too late* in derivational terms to save the structure from crashing, that some PF-relevant property related to the wh-phrase needs satisfaction prior to Spell-out and this can therefore not be achieved by any *post*-Spell-out movement (although such movement would not violate other syntactic principles). Chomsky 1993 suggests that syntactic movement is in all cases triggered to satisfy morphological feature-checking requirements between an X^0 functional head and the elements which undergo movement. Overt wh-movement in English takes place because a wh-(operator) feature must be checked in the specifier position of a +Q Comp by Spell-out; if unchecked by Spell-out the presence of the strong wh-(operator) feature at PF will cause the structure to crash at this level. In Chomsky 1995 it is simply claimed that all strong features must be checked immediately upon introduction; in the case of wh-questions, strong wh-operator features will trigger raising of a wh-phrase as soon as they are introduced in C^0 (hence also prior to Spell-Out). A similar account may be proposed to explain the Iraqi Arabic phenomena observed here - raising of the wh-phrase to the +Q Comp by Spell-Out in 4 will achieve successful checking of wh-features, and as in English such wh-feature-checking *must* also occur by Spell-out - raising of the wh-phrase at LF though not blocked for any reason (in 3) would come too late to satisfy the relevant wh-feature-checking requirements. Furthermore, if all movement must be motivated by feature-checking requirements, then the overt movement of the wh-phrase in 4 must indeed be taken to be triggered by a need to check (wh-)features; as the movement takes place prior to Spell-Out and the Economy Principle of Procrastinate forces movement to be covert at LF wherever possible, it can be concluded that the wh-features must be checked before Spell-Out. The unacceptability of 4 can therefore straightforwardly (and arguably *only*) be analyzed as resulting from a failure of the (pre-Spell-Out) wh-feature-checking that would otherwise be achieved by raising of the wh-phrase.

The paradigm in 1-4 also allows one to draw the significant conclusion that it is formal properties of wh-phrases themselves which require

satisfaction/licensing here rather than any of a +Q Comp, in Minimalist terms that it is wh-features carried by wh-phrases which need checking and not any assumed present on the +Q C^0. As noted relative to examples 1 and 2, Iraqi Arabic is a language in which all wh-phrases may remain in situ at Spell-Out (so long as they occur in the tense domain of the +Q Comp), unlike English-type languages where raising of a wh-phrase to Comp is always forced to occur prior to Spell-Out. If wh-raising need not occur in 1/2, then a +Q Comp in Iraqi Arabic cannot be taken to contain strong wh-operator features which clearly would *always* require overt raising of a wh-phrase for pre-Spell-Out checking. Wh-movement in Iraqi Arabic instead seems to relate directly to the wh-phrase itself and its position relative to the +Q Comp - if the wh-phrase occurs in some kind of opaque domain, then raising to a higher position/domain is forced, if the wh-phrase is base-generated in the tense domain of a +Q Comp then no movement is required. Hence a +Q Comp does not require licensing/feature-checking via obligatory raising of a wh-phrase to its Spec position, but a wh-phrase does appear to need to undergo movement to be licensed in certain instances. If movement may only take place for feature-checking this obviously means that wh-features carried by the wh-phrase itself must be checked by raising out of an opaque domain. Such a conclusion is clear and strong evidence against Chomsky's 1995 suggestion that +interpretable features (such as *wh*) will only require checking when strong and present on a functional head - here it is seen that the relevant functional head C^0 cannot be argued to carry any strong (operator-)features and it is crucially for the licensing of a *wh-phrase* (and checking of wh-features carried by it) that movement is triggered. *Wh* (and possibly other so-called +interpretable features) can therefore be taken to be a feature just as much in need of licensing/checking on the *XPs* which carry it as (for example) the -interpretable *case*-features present on DPs, and will not be subject to checking just on +Q Comps. This important point, supported by further evidence from Iraqi Arabic and other languages, will later be shown to have serious consequences for accounts of wh-feature-checking in English-type languages when multiple wh questions are considered.

A second highly significant conclusion to result from a consideration of examples 1-4 concerns the *locality* of feature-checking. Chomsky 1993/95

suggests that feature-checking is a relation which may only be effected within the 'strict locality' of Spec-head and head-adjoined configurations, this property requiring and resulting in movement of an element to its checking head. However, the patterning of wh-phrases and movement in Iraqi Arabic as illustrated in sentences 1-4 provides evidence of the strongest kind that such a claim cannot in fact be (universally) correct, and that feature-checking must also be possible 'long-distance' and within wider domains. To briefly recap what 1-4 have shown: the *movement* of wh-phrases in Iraqi Arabic can only be assumed to take place for checking of (wh-)features (4), and will save illicit structures from crashing (3); the relevant features which are checked by movement of a wh-phrase are wh-features on the wh-phrase itself and not any strong operator features on Comp, otherwise wh-raising to Comp would have to take place in *all* wh-questions (but this is not so - 1/2). Checking of wh-features on wh-phrases must furthermore take place *prior* to Spell-Out - hypothetical LF movement of wh-phrases in unacceptable examples like 3 is not blocked in any way, but would come too late in the derivation to satisfy licensing of the wh-phrase, and indeed is forced to occur overtly, as in 4. Now critically, although it is concluded that wh-features carried by wh-phrases *must* be checked prior to Spell-Out, raising to Comp is *not* forced to take place where a wh-phrase occurs base-generated in the tense domain of the +Q Comp (1/2), and a wh-question is fully acceptable when the wh-phrase still remains in situ at Spell-Out. As such wh-elements must however be assumed to carry wh-features in need of pre-Spell-Out checking in the same way that wh-phrases base-generated in embedded tensed CPs do, it can only be concluded that these wh-features are checked prior to Spell-Out on the wh-phrases in their *in situ positions*. Clearly not being in the Specifier of the checking head (C^0) at the point at which wh-checking must be effected, it therefore must be conceded that feature-checking is *not* in fact always subject to the strict locality conditions commonly assumed and argued for, and may at least in certain instances also take place within larger domains.[3] Such a conclusion obviously

[3] Noting it is not possible to suggest that any 'empty wh-operator' raises to Comp from the in situ wh-phrases (as Watanabe 1991 proposes is the case in Japanese); if this were to be so, then it should also be possible for such an empty operator to raise to the +Q Comp from wh-phrases occurring in embedded tensed CPs and examples like 3 would incorrectly be predicted to be well-formed.

runs counter to a fairly fundamental and driving claim of the Minimalist Program and has potentially far-reaching consequences for many aspects of the Minimalist model. It nevertheless does seem to be inescapable if one follows through the set of assumptions relating to movement and feature-checking made in Chomsky 1993/95, and no other analysis of the data would indeed appear to be possible within the Minimalist Framework. In subsequent sections and chapters we will examine various of the serious issues and questions raised by the suggestion that feature-checking may be 'non-local' and attempt to see if there are other arguments/data which might further support such a conclusion. For the moment however, we return to Iraqi Arabic once more.

Checking of wh-features in Iraqi Arabic is now argued to take place between a +Q Comp and a wh-phrase occurring in any position within the tense domain of the +Q Comp, either as a result of simple base-generation of the wh-phrase in the tense domain of the +Q Comp *or* pre-Spell-Out movement into this domain (raising to Comp). Although wh-feature-checking is thus not bound to be strictly Spec-head local, it nevertheless is still constrained by some notion of locality, this being defined relative to tense - a wh-phrase will only be licensed in the immediate tense domain of the +Q Comp. In addition to the noted tense-domain restriction on wh-feature-checking, there are actually also certain other locality restrictions on the licensing of wh-phrases in Iraqi Arabic which appear to correspond more closely to familiar constraints on applications of *movement*. As illustrated in examples 5 and 6, wh-phrases may not occur in situ in either relative clauses or wh-islands (with scope higher than the +Q Comp of the wh-island itself); this is again unlike the much more free potential distribution of wh-phrases in situ in Japanese, Chinese, English etc. Because such constituents are islands for syntactic extraction and movement, it might then be suggested that an LF movement analysis of in situ wh-phrases should in fact be pursued, despite the above given evidence to the contrary. We will however argue that such island-like locality restrictions on wh-phrases ultimately do not constitute any good evidence in favour of an LF movement approach and may instead actually be used to support the alternative suggestions put forward here.

(5) *Mona 'urfit [il-bint$_i$ [illi$_i$ t$_i$ ishtarat *sheno*]]
Mona knew the-girl who bought what
*What$_i$ did Mona know the girl who bought t$_i$?

(6) Mona nasat [*li-meno* tinti *sheno*]
Mona forgot to-whom to-give what
NOT: What did Mona forget whom to give to?

Although in 6 interpretation of the in situ wh-phrase sheno-what at a higher +Q would seem to be quite clearly blocked by its occurrence in an embedded interrogative clause, the unacceptability of 5 needs to be considered somewhat further. In 5 the wh-phrase sheno 'what' in the relative clause appears within a *tensed* CP that does not also contain the +Q Comp, hence it might be argued that the tensedness of the relative clause will in any case block licensing of the wh-phrase by a higher +Q Comp, regardless of the potential islandhood of the CNP. In Iraqi Arabic it is not possible to form non-tensed CNPs of any kind, hence the hypothesis that +tense in the relative clause is blocking licensing of the wh-element cannot be checked in this way. However it is in fact possible to control for the tensed factor in another way, involving a slight digression introducing data which will be returned to in more detail in chapter three. As well as standard in situ wh-questions of the type seen in 1/2/4, Iraqi Arabic also allows for the use of a particular wh-question particle (QP) strategy to form wh-questions. An interrogative element sheno often reduced to 'sh-' appears clause-initially and all other wh-phrases may remain in situ (sheno being derived from/homophonous with sheno 'what' but in these type of questions not receiving any interpretation as 'what', and rather functioning purely as a +Q morpheme, as e.g. German was 'what' in partial movement structures, see section 2.2 and chapter 3). The use of such a QP has the interesting effect of partially overcoming the noted opacity effect induced by tense on wh in situ, so that a wh-phrase may licitly occur in situ in an embedded tensed CP licensed by the +Q Comp of an immediately higher tense domain (compare 7 below with 3 above):

(7) *sh*-tsawwarit Mona [Ali raah *weyn*]?
QP-thought Mona Ali went where
Where did Mona think that Ali went?

However, if one attempts to use this QP-strategy to overcome the possible interfering tense effects with wh in situ in CNPs, the resulting questions are still ill-formed:

(8) **Sh*-'urfut Mona [il-bint$_i$ [illi$_i$ t$_i$ ishtarat *sheno*]]?
QP-knew Mona the-girl who bought what
*What did Mona know the girl who bought?

Therefore it may be concluded that it is not tensedness of the CP containing the wh-phrase in the relative clause which is causing a problem for licensing of the wh-phrase here. An LF movement approach to the syntax of wh in situ might then claim that sentences such as 5 and 6 are ill-formed for the simple reason that the wh-phrase must undergo movement to the relevant +Q Comp and that it is this movement which is blocked by the barrierhood of the wh-island and the CNP respectively. It can however be argued that this is not an appropriate analysis for 5 and 6. Ouhalla 1994 has noted that if the wh-elements in 5 and 6 are overtly extracted from their containing island environments the resulting questions are markedly less unacceptable than when the wh-phrases remain in situ in the islands:

(9) ??*Sheno*$_i$ nasat Mona [*li-meno* tinti t$_i$]?
what forgot Mona to-whom to-give
What did Mona forget to whom to give?

(10) ??*Sheno*$_i$ 'urfut Mona [ilbint illi ishtarat t$_i$]?
what knew Mona the-girl who bought
What did Mona know the girl who bought?

Whereas 5 and 6 are both completely unacceptable and unintelligible as questions, Ouhalla suggests the reduced acceptability of 9 and 10 is typically

that of regular Subjacency violations, resulting (simply) from the illicit extraction of an element from within an island configuration. Given that 5 and 6 are significantly worse and perhaps may not be assigned any coherent interpretation it must be assumed that they are violating some constraint *other* than Subjacency. If one assumes that the licensing of wh-phrases (checking of wh-features) is in some way critical for their interpretation, and adopts the suggestions made earlier as to how and at what derivational point such licensing/checking must occur, the difference in acceptability between 5/6 and 9/10 can actually be predicted - in the latter the wh-phrases move to a +Q Comp by Spell-out and so are successfully checked by this point, their interpretation as interrogative wh-phrases being licensed; in achieving this however, a pure constraint on movement is violated (Subjacency), resulting in the reduced acceptability judgements. In 5 and 6 by way of contrast, the wh-phrases do not appear in a domain where their wh-features can be checked by Spell-out and so the structures will automatically crash, the wh-elements not being licensed as wh-phrases and hence not allowing for any coherent interpretation.

If the well-formedness condition relevant for wh-phrases (in situ) were just to be that they need to appear raised in a +Q Comp by LF, as more standard GB accounts might suggest, it would be expected that the grammaticality of 5/6 and 9/10 should be the same and not that the former should be significantly worse and actually unintelligible; the movement necessary to form an LF equivalent of 9/10 from 5/6 should violate (only) those same locality constraints as are violated when overt movement does take place (in 9/10). One might even expect that 5/6 should be less unacceptable than 9/10 or perhaps even fully acceptable given that LF movement of the wh-phrase might be able to proceed in a way different from that in 9/10 where straight and direct extraction from an island environment has occurred. It has often been noted that wh-phrases may licitly occur in situ in environments from which direct (overt) extraction appears blocked by standard locality constraints, e.g. in Chinese, Japanese, English etc. It has been suggested that there are various options essentially available only at a post 'S-structure' level by means of which such wh-phrases in situ in islands may reach a +Q Comp without violating Subjacency, e.g. via Pied Piping of the containing island

(Nishigauchi 1986 and others), QR of the entire island followed by adjunction-out (Fiengo et al 1988) etc. It is then quite unexpected and unpredicted under such LF movement views that the in situ forms in 5/6 should actually be worse than their overtly extracted counterparts[4]. Rather it seems that it is some property relevant to PF/Spell-out that is not being satisfied by this derivational point which is causing 5/6 to be so unacceptable, as argued before - the wh-features on the wh-phrases in 5/6 remain unchecked at Spell-out.

Thus although certain environments in which wh-phrases may not occur in situ may at first sight appear suspiciously reminiscent of extraction-islands and prompt one to an LF movement approach of wh in situ in Iraqi Arabic, there are good reasons for assuming that LF wh-movement does *not* in fact take place - both the contrasts in 5/6 and 9/10 and the unacceptability of wh-phrases in situ in non-island embedded tensed CPs. The contrastive set of 5/6 and 9/10 also shows that there is not only a difference in *degree* of unacceptability between moved and in situ wh-phrases in wh-island and CNP environments, but also one of *type* - 9/10 are still interpretable as wh-questions whereas 5/6 receive no coherent interpretation at all. In this sense they appear to be like other instances where morphological features are not successfully checked during the course of a derivation and this results in unintelligibility, as in 11 and 12 where the subject DP features are not checked by (pre-Spell-out) raising to SpecAgrS/TP. Though no locality conditions on movement would bar the subjects from raising at LF, this would however come 'too late' for the DP-features to be checked:

(11) *Not John come.

(12) *Did not John come. (intended to be a statement)

If therefore no movement (at LF) takes place in Iraqi Arabic, then the

[4] It should be noted that the Iraqi Arabic data here provide a strong counterargument against proposals made in Fiengo et al, where it is clearly predicted that wh-phrases should be able to occur in situ in CNPs in *any* language, as QR and the possibility of (ensuing) adjunction to an A'-constituent (which allows them to account for Chinese, English etc) should be options available universally. Nishigauchi would have to say that Pied Piping and feature percolation are not possible in Iraqi Arabic to the extent they are in Japanese, and Watanabe that an (empty) wh-operator cannot be generated in SpecDP of a CNP in this language, an approach taken up in Tsai 1995.

unacceptability of wh-elements in situ in wh- and CNP islands cannot be accounted for in terms of constraints on movement, and importantly it must be conceded that there may also exist island-like locality constraints on purely *non-movement* (licensing) relations (in addition to other non-movement locality constraints which do not affect movement, vis the opaqueness of tensed CPs to licensing but not extraction), a claim which has in fact previously been argued for in slightly different form in Cinque 1991 (relative to the island-sensitivity of Clitic Left Dislocation structures in Italian) and Bresnan 1976 (on Comparative Deletion).

Finally in this section we wish to provide further evidence that it is indeed (wh-features on) wh-phrases themselves which are critically in need of licensing/checking and that *all* wh-elements can be assumed to carry such a feature-checking/licensing requirement. Earlier it was argued that a +Q Comp in Iraqi Arabic cannot be taken to contain any strong wh-operator features requiring pre-Spell-Out checking as wh-raising to Comp is not always forced to take place (unlike in English etc). When raising of a wh-phrase does therefore occur, it can be assumed to be triggered by licensing requirements of the wh-phrase itself which might otherwise not be satisfied prior to Spell-Out in situ in an opaque tensed CP. The data just reviewed in 5/6 and 9/10 also point towards the same conclusion. As a +Q Comp does not require obligatory raising of a wh-phrase and hence cannot contain strong wh-operator features, the unacceptability of 5 and 6 can only be due to licensing requirements of the wh-phrases themselves remaining unsatisfied at Spell-Out (licensing and intelligibility then being achieved via overt extraction from the island configurations in 9/10, though simultaneously also leading to a violation of locality constraints on movement). Here a brief consideration of *multiple* wh-questions in Iraqi Arabic can be shown to offer additional and fairly conclusive evidence that not only does the wh-licensing requirement relate to wh-phrases rather than the +Q Comp, but that *all* wh-phrases require feature-checking. As example 13 shows, multiple wh-questions are perfectly acceptable in Iraqi Arabic (unlike for example in Italian); however the distribution of 'secondary' wh-phrases is far from being free and may result in a multiple wh-question being unacceptable (14):

(13) *Sheno*$_i$ ishtara Ali t_i [minshaan yenti *li-meno*]?
what bought Ali in-order-to give to-whom
What did Ali buy to give to whom?

(14) **Meno* tsawwar [Ali xaraj weyya *meno*]?
who thought Ali left with *whom*
Who thought that Ali left with whom?

In 13 both wh-phrases are straightforwardly licensed by occurring in the same tense domain as the +Q Comp (the lower CP being -finite). As the higher wh-phrase in 14 will also be licensed/checked quite normally by occurring in the same tense domain as the +Q Comp, the unacceptability of the sentence can only be due to the presence of the second wh-phrase meno 'whom' in the embedded *+finite* CP, indicating that secondary wh-phrases are constrained by precisely the same factors as 'primary' wh-phrases and may not occur in embedded tensed CPs where the licensing +Q Comp is in a higher tense domain. It therefore must be assumed that it is necessary for *all* wh-phrases to be licensed, and that this is not possible for the second wh-phrase occurring in the lower tensed clause. As it has already been shown there is no barrier for movement in 14, nothing should prevent any post-Spell-out LF movement to Comp if this were to be the sole necessary requirement for the wh-phrase. Instead it seems the relevant licensing requirement must be met by Spell-Out; one may conclude both that every wh-phrase present in a wh-question carries (wh-) features in need of licensing, and furthermore that all such wh-features must be checked by the *same* derivational point - Spell-Out (otherwise the lower wh-phrase could indeed raise up to the +Q Comp and check at LF).

As mentioned earlier, such a conclusion goes against suggestions in Chomsky 1993/95, where on the basis of English (and Watanabe 1991 inspired Japanese data) it is argued that it is only wh-features on the *+Q Comp* of wh-questions that will require checking, and more generally (in Chomsky 1995) that *+interpretable* features like *wh* and agreement will not need checking on the XPs which may carry them but only on functional checking heads when the relevant features are strong. If it can now be assumed that *wh* is a feature which does in fact require checking and licensing on all the XPs which carry

it, and hence in this respect patterns alongside *case*-features on DPs, a thorough re-examination and re-assessment of *wh*-checking and movement in English and other similar languages seems called for, this being presently taken up in section 3.

To sum up and recap the main points of this section, it has been suggested that wh-movement takes place in order to satisfy certain purely formal licensing requirements on wh-phrases. In Iraqi Arabic only those wh-elements which do not occur in the tense domain of a +Q Comp are actually forced to undergo movement, all other wh-phrases base-generated in the tense domain of the +Q Comp being perfectly well-formed in their in situ positions without any raising. Wh-movement is therefore argued to be directly triggered by a need for all wh-elements to occur in a certain (tense-defined) local relation with a +Q C^0 prior to Spell-Out, and that as such locality conditions frequently may be trivially satisfied via simple lexical insertion in the relevant local domain, raising need not in fact apply to all wh-phrases. Assuming then that occurrence in some position within the tense domain of a +Q Comp will lead to satisfaction of relevant well-formedness conditions on wh-phrases in Iraqi Arabic, and given that such conditions would indeed often appear to be fully satisfied by wh-phrases in situ in non-Comp positions, it can be concluded there is no requirement for all wh-elements to occur in and build operator-variable chains or raise to establish scope via movement to Comp. Where (wh)movement does occur, this instead simply takes place in order that a wh-phrase attains the same basic locality status relative to a +Q Comp as enjoyed by other in situ wh-phrases base-generated in the tense domain of the +Q Comp. Such locality was consequently taken to be necessary for formal licensing of wh-phrases as interrogative +Wh-elements, and further identified as satisfaction of a wh-feature-checking requirement in Minimalist terms. We then argued that the wh-feature-checking requirement relates purely to wh-phrases themselves and not to the +Q Comp (in Iraqi Arabic, at least), and further that all wh-phrases must be feature-checked prior to Spell-Out. Finally this led to the significant conclusion that (wh-)feature-checking must in fact potentially be available 'long-distance' and is not restricted to occurring only in the strict locality of Spec-head (or head-adjoined) configurations - if all wh-

phrases must be checked by a +Q Comp prior to Spell-Out, then those occurring in situ in the tense domain of the +Q Comp at PF must be licensed non-locally in these in situ positions.

We now turn to German and Hindi and show that further *wh*-related evidence similar to that considered above can also be found in other languages, leading to and supporting the same set of conclusions regarding feature-checking as has initially been made on the grounds of wh-questions in Iraqi Arabic.

2.2 Partial Wh-Movement in German

In many dialects of German[5] wh-questions in which an item from a subordinate complement clause is questioned may be formed in two different ways. Alongside regular long wh-movement to Comp there is also 'Partial Movement' (to be treated in greater depth in chapter three) which involves raising of a wh-phrase to the (-Q) Comp position of a lower clause and insertion of a question particle (QP) was 'what' in the +Q Comp of a superordinate clause where the wh-phrase is understood to take scope.

(15) Mit wem$_i$ glaubt Hans [t_i dass Jakob jetzt t_i spricht]?
With whom does Hans believe that Jakob is now talking?

(16) *Was* glaubt Hans [mit wem$_i$ Jakob jetzt t_i spricht]?
With whom does Hans believe that Jakob is now talking?

In the case of partial movement 16 the item functioning as a question particle was receives no interpretation as 'what' (as in also the Iraqi Arabic examples 7/8 given above).

Although examples such as 16 are fully grammatical, it appears that there are certain other strict constraints on Partial Movement structures and the wh-phrase must raise to a *particular* (-Q) Comp, not just the (-Q) Comp of

[5] North German, that spoken in the Ruhr area, and also certain speakers of German in the south of the country.

any lower CP; 17 where the wh-phrase is partially-moved to the Comp of the lowest clause is unacceptable:

(17) **Was* glaubst du [dass Hans meint [*mit wem*$_i$ Jakob t$_i$ gesprochen hat]]?
(Intended) With whom do you believe that Hans thinks that Jakob spoke?

If the wh-phrase in 17 were simply to be required to undergo (further) raising at LF to the matrix +Q Comp in order to satisfy a well-formedness condition on LF that an operator-variable chain be constructed from the 'scope' position of the wh-phrase, this should clearly *not* be blocked in 17, as the partially-moved wh-phrase does not occur in any island for movement. Not only is movement of wh-phrases unbounded and possible through any number of tensed clauses in regular wh-questions without wh-question particles (vis 18), overt partial movement of the wh-phrase to the intermediate -Q Comp of 17 may also take place and will in fact result in a perfectly acceptable question-form (19):

(18) *Mit wem*$_i$ glaubst du [t_i dass Hans meint [t_i dass Jakob t_i gesprochen hat]]?
With whom do you believe that Hans thinks that Jakob spoke?

(19) *Was* glaubst du [*mit wem*$_i$ Hans meint [t$_i$ dass Jakob t$_i$ gesprochen hat]]?
With whom do you believe that Hans thinks that Jakob spoke?

As with Iraqi Arabic it can therefore not be suggested that the tensedness of the clauses intervening between the position of the partially-moved wh-phrase in 17 and either the matrix Comp or the Comp the wh-phrase is raised to in 19 constitutes a barrier to LF movement of the wh-phrase (constraints on movement being taken to apply uniformly to both pre- and post-Spell-Out applications of raising). Rather it seems that some requirement must be met by movement of the wh-phrase to the positions in 16 and 19 occurring *prior to Spell-Out*, and LF movement of the wh-phrase in 17 to the position of mit wem in 19 (or to the matrix Comp), though possible and not blocked by locality

constraints on movement/extraction, would simply come *too late* in the derivation to save 17 from crashing. As the relevant requirement must then be met by Spell-Out and cannot be satisfied via LF movement, it would not appear to be an interpretational constraint on LF; one may therefore conclude that it is a purely formal *wh*-licensing requirement (as with Iraqi Arabic); as it is further met via *movement*, it can (and in a Minimalist model indeed must) be assumed to be a *feature-checking* requirement.

Various other conclusions parallel to those made in section 2.2 automatically follow on. If any strong wh-operator features present in the +Q Comp in 16/19 are satisfied/checked by the wh-question particle was, then the feature-checking satisfied by (partial) movement of the wh-phrase must relate solely to wh-features on the wh-phrase itself - hence wh-phrases do carry feature-checking requirements themselves (despite *wh* being +interpretable) in addition to any which might need licensing in a +Q C^0. As such wh-features must be licensed and checked prior to Spell-Out, and clearly do appear to be licensed in 16/19 vs. 17 when the wh-phrase is partially-moved to a particular -*Q* Comp, again one has to conclude that feature-checking may take place 'non-locally' and long-distance - in 16/19 the wh-phrase does not occur in the Spec of the checking/licensing head at the point when feature-checking must take place (the matrix +*Q* C^0). However, this potentially non-local feature-checking is still seen to be subject to some notion of (non-movement) locality - although it is possible between the matrix +Q C^0 and a wh-phrase in an immediately lower -Q Comp in 16/19, it may not be effected between the +Q C^0 and the wh-phrase in the lowest Comp in 17. In chapter 3 evidence will be given that 'long-distance' wh-feature-checking in partial movement structures is in fact critically constrained by +tense just as in Iraqi Arabic (and Hindi). Although we postpone a full analysis and account of Partial Movement until such time, a brief consideration of the data has however already been shown to argue for the same strong conclusions concerning the nature and locality of feature-checking as made relative to Iraqi Arabic in the preceding section, conclusions which will now be further strengthened by a consideration of wh-movement phenomena in Hindi.

2.3 Hindi

In Hindi,[6] as in Iraqi Arabic, all wh-phrases may occur in situ at PF and there is no requirement that a +wh+Q Comp be filled by any wh item prior to Spell-out, unlike English/German etc:

(20) *Raam-ne [Mohan-ko kise* dekhne ke liye] kahaa?
Ram-erg Mohan-erg whom to see for told
Who did Ram tell Mohan to look at?

However, whereas wh-phrases may occur in situ in embedded *non-finite* CPs, as per 20 above, they may not do so in equivalent *tensed* clauses:[7]

(21) *Raam-ne kahaa [ki kOn aayaa hE]?
Ram-erg said who has come
Who did Ram say has come?

Such tensed CPs nevertheless are not islands for extraction, and as with Iraqi Arabic (and German) not only may a wh-phrase undergo overt raising from a tensed clause, but when this occurs in examples like 21 the result is a perfectly well-formed question:

(22) kOn_i Raam-ne kahaa ki t_i aayaa hE
who Ram-erg said has come
Who did Ram say has come?

Therefore, as with Iraqi Arabic and German partial-movement, one is forced to assume that although *LF* raising to the +Q Comp in 21 must be possible and would furthermore result in a configuration which is well-formed *at PF / Spell-*

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[6] Most Hindi data here is taken from Mahajan 1990.

[7] Unless there is a wh-question-particle in the superordinate clause, this being fully parallel to the use of wh-question particles in Iraqi Arabic (see example 7 and remarks there). Such question-types will be examined further in chapter 3.

out, such hypothetical raising would come too late to satisfy certain properties of the wh-question. As pre-Spell-Out *movement* of the wh-phrase in 22 will save 21 from otherwise being unacceptable, and as +Q Comps in Hindi do not always require a wh-element in their Spec (hence cannot be taken to be generated with strong wh-operator features), it can again only be concluded that *wh*-raising in 22 takes place to check wh-features carried by the wh-phrase itself prior to Spell-Out. If wh-phrases in Hindi *must* therefore be feature-checked by Spell-Out, where other wh-phrases are seen to occur quite licitly in situ (as in 20), these wh-phrases must be assumed to be licensed and feature-checked in their *in situ* positions and consequently not in any strict Spec-head relation with the checking head C^0. Feature-checking is then once more attested to be possible 'long-distance', though again constrained by tense factors and blocked where a wh-phrase occurs in situ in a tense domain which does not contain the +Q Comp (21).

We also find evidence in Hindi similar to that already presented that *all* wh-elements require licensing by Spell-out:

(23) **kOn* Raam-ne kahaa ki *kis-ko* t_i maaregaa
who Ram-erg say t_i who will hit
Who did Ram say will hit who?

In 23 raising to the matrix will effectively licence the first wh-phrase kon 'who', but the second wh-phrase kis-ko 'whom' also apparently requires licensing by Spell-out, this not being possible due to the fact that it appears in a non-interrogative tensed clause at the point at which feature-checking must take place. Movement of this wh-phrase out of the tensed CP is both possible and will indeed result in a well-formed question if occurring prior to Spell-out, as 24 below shows:

(24) kOn_i $kis\text{-}ko_j$ Raam-ne kahaa ki t_i t_j maaregaa
who whom Ram-erg say will hit
Who did Ram say will hit who?

Thus again it is seen that *all* wh-elements must be taken to carry wh-features

in need of checking and that checking of all wh-features must take place uniformly by Spell-out, noting once more that if movement is only triggered by feature-checking requirements, and obviously results in saving an ungrammatical form (24 vs. 23) then the movement of the second wh-phrase in 24 can in fact only be for such (feature-checking) purposes.

From the contrast in 21/22 and 23/24 it has been seen that wh-licensing/feature-checking in Hindi, as in Iraqi Arabic and German, is subject to locality conditions which do not correspond to those on movement (i.e. the opacity effect created by +tense). If this licensing relation between the +Q Comp and the wh-phrase does not involve movement at any level of derivation, as argued, then once again we find clear evidence for the existence of locality constraints on purely *non-movement* relations. As in Iraqi Arabic, it may be further noted that certain other syntactic environments which constitute islands for extraction do also block the hypothesized wh-licensing relation in Hindi, specifically CNPs and wh-islands. This overlap with locality restrictions on actual movement should however not lead one to presume that any movement is necessarily involved in wh-licensing. As with Iraqi Arabic it can be shown that there is a significant difference in acceptability between extraction and the illicit unlicensed occurrence of wh-elements in situ within such configurations:

(25) Raam-ne Mohan-se puuchaa ki *kis-ne kyaa kEse* Thiik kiyaa
Ram-erg Mohan asked who-erg what how fixed
Ram asked Mohan who fixed what how.
NOT: What did Ram ask Mohan who fixed how?

(26) ??*kOn sii tiim*$_i$ Raam-ne puuchaa ki *kis-ko*$_k$ Mohan soctaa hE ki t_i t_k haraa degii
which team Ram-erg asked who Mohan thinks will defeat
Which team$_i$ did Ram ask who$_k$ Mohan thought t_i would defeat t_k?

In 25 it is not possible for either of the wh-phrases in the lower wh-island to be interpreted as taking scope at a matrix +Q Comp, hence that licensing of a wh-phrase in a wh-island by a higher +Q Comp is not permitted as an option.

However, this does not relate to any impossibility of movement - in 26 the wh-phrase kOn sii tiim is extracted from the island to the matrix and this does result in a coherent interpretation of the wh-phrase as being directly questioned, hence licensed by the matrix +Q Comp. The sentence is not fully acceptable because constraints on *movement* are thereby violated, any extraction (e.g. of topic phrases) out of wh-islands also resulting in a similar degraded status. If wh-licensing were always to involve movement and could be effected by LF raising of the wh-phrase kyaa to the matrix +Q Comp in 25, one should expect both 25 and 26 to be equally (un-)acceptable. However, 25 is markedly worse (and indeed impossible) on the attempted interpretation, indicating that it is not a locality restriction on LF movement which is responsible for the contrast. The contrast may instead be explained by assuming that wh-phrases in Hindi must be licensed by Spell-out and that this is achieved in 26 but blocked (relative to a matrix +Q Comp) in 25, perhaps because a wh-phrase in Hindi must be licensed by the nearest c-commanding +wh+Q Comp, Relativized Minimality then acting as a constraint on non-movement relations[8]. It is therefore (arguably) not possible to suggest that LF movement of wh-phrases takes place in Hindi in order to explain the fact that certain syntactic configurations block both movement and wh-licensing relations, and one does need to admit that various non-movement dependencies are also constrained by a distinct notion of locality (which may nevertheless overlap with constraints on dependencies resulting from extraction).

That various islands for syntactic movement may also constrain and block other dependency types which cannot be analyzed as resulting from movement and hence that island locality phenomena alone do not necessarily provide sufficient or perhaps even strong evidence for assuming any covert movement in an expression has indeed been suggested in a number of works in the past. The claim made here that wh-licensing relations in certain languages are constrained by some non-movement island locality is consequently neither particularly radical nor without other linguistic support.

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[8] See also Li 1992 for a view of Relativized Minimality as a non-movement-related locality condition.

One well-known case of a construction which has been noted to exhibit strong locality restrictions, but which nevertheless cannot be claimed to relate to any movement, is that of Clitic Left Dislocation (CLLD) examined in Cinque 1991. Although the relation between a left-dislocated XP and a 'resumptive' clitic in Italian displays sensitivity to *Strong* Islands and Connectivity effects, this perhaps appearing to indicate a topicalization-fronting operation, Cinque convincingly argues that the clause-initial XPs in CLLD constructions are base-generated in their PF positions and have not undergone raising. Some of the reasons given for such a conclusion are as follows: 1) CLLD is not even mildly sensitive to other *Weak* Islands which do constrain movement (e.g. wh-islands and Inner-Neg islands) 2) the 'gap' in CLLD constructions can only be that of the clitic raised to Infl and not of the initial XP as no clitic-doubling is possible elsewhere in Italian, nor can the clitic be claimed to be a trace spell-out as Parasitic Gaps are not licensed in CLLD (hence A'-movement of the left-dislocated XP does not take place) 3) *ne*-cliticization facts also indicate no movement of the initial XP, CLLD contrasting with parallel *focus* constructions where *ne*-cliticization phenomena do indicate movement, and 4) CLLD is bad where the 'gap' is the subject of a clause selected by an Exceptional Case-Marking verb, whereas *movement* from such a position is always acceptable (e.g. focus/wh-movement).[9] There are thus many independent reasons to reject a movement analysis despite the Strong Island sensitivity of CLLD and Cinque suggests that the more abstract property of entering into a *Binding Chain* may in fact be what is constrained by such locality, where Binding Chains can arise either via movement or base-generation.

Bresnan 1976 also shows that locality constraints previously associated only with movement relations appear to affect constructions in which there is arguably no movement. Discussing comparative constructions which Chomsky 1977 analyzes as involving raising of a null operator, she provides good evidence that *deletion* rather than movement is involved. What is 'deleted' may often correspond to a non-constituent sub-part of a larger phrase that normally may not undergo movement (without pied-piping of the remainder of the

[9] It is argued that case is exceptionally assigned to SpecCP rather than SpecIP, so that any element which undergoes movement through SpecCP will successfully be case-marked. CLLD in these instances is bad as a *pro* base-generated in SpecIP will *not* receive case.

containing phrase); this can for example be the quantificational modifier of a DP:

(27) She has as many boyfriends as she has [[books]].
(28) *[How many]$_i$ does she have [t_i [books]]?
(30) *[So many]$_i$ does she have [t_i [books] that...

Bresnan notes in this respect that certain other cases show that strings which do not comprise constituents *may* indeed be affected by (non-movement) deletion rules (while movement may *only* apply to strings that are constituents), as e.g. in gapping:

(31) Jill tried to hit Jack, and Jack [ ] Jill

Further, certain elements that appear to be deleted in comparative constructions may also be omitted in other environments, even when there is no comparison (and hence no possibility of a null operator and movement):

(32) He's as good as a singer of lieder as he was [[ ] of pop songs].
(33) Are there many nuggets of gold in the jar? There certainly don't seem to be [many [ ] of pyrite].

Because comparative constructions are in fact also sensitive to island constraints, as shown in 34-35 below, but for other reasons may only be analyzed as involving deletion rather than movement, then island-sensitivity cannot be taken as an unfailing diagnostic of movement (and Subjacency/the CED perhaps do not constrain movement but representations which encode certain dependencies):

(34) *Therefore they can hire more men than I met a woman who has [[ ] boyfriends].
(35) *We ordered more warheads built than we expected the announcement that they had [[ ] missiles].

Similar conclusions may also be reached relative to Antecedent-Contained Deletion (ACD) as indicated in chapter one. Such constructions appear constrained by Subjacency/the CED yet no actual movement can have taken place for the various reasons given there:

(36) *John read everything which Mary believes [the report that he did [ ]].
(37) *John read everything which Mary wonders why he did [ ].

In another set of cases, a *licensing* relation between two elements appears subject to certain island-like locality, yet it is implausible to suggest that movement relates licensor and licensee in the dependency as there does not seem to be any morphological feature common to both in need of checking (and movement is assumed to take place solely for such feature-matching/checking). This is the case with the licensing of NPIs in various languages, which seems to show sensitivity to the CNPC:

(38) *I didn't find a man who knew anything.

If one attempts to relate this locality restriction to hypothetical LF movement triggered between the NPI *anything* and licensing negation, then one must argue that negation checks some inherent neg-feature carried by the NPI. However, it is well-known that NPIs are licensed by a variety of different elements (conditionals, comparatives, yes/no questions, negation etc); given that similar locality effects show up also with these other licensing elements, one would have to suggest that NPIs carry an array of different features each one of which might trigger raising for checking against a licensor, an undesirable claim,[10] (it also seems unlikely that a single feature-type could trigger raising to all of the different licensors). Indeed, it is not commonly assumed that NPI licensing involves any movement operation, partially perhaps for these very

[10] Undesirable as none of the licensors *require* an NPI (hence the licensors cannot carry strong features relating to an NPI); if it is claimed that it is features on the NPI which trigger raising, then only one such feature of the set an NPI must hypothetically carry will be checked in any instance - e.g. in 38 only its neg-features will be checked but none of the features that relate to other licensing elements. Such unchecked features should result in crashing every time an NPI is employed.

reasons, but also because NPI-licensing does not seem to be sensitive to other island environments (so that the locality evidence is ultimately not even strong either). It must then be admitted that there are certain syntactic configurations (such as CNPs) which ostensibly block various non-movement relations too.

This is further seen with the licensing of *indefinite wh* expressions in Chinese (cf Li 1992). Those elements which function as wh-interrogative words in Chinese may also receive interpretation as indefinites somewhat like NPIs when licensed in a variety of environments, some of which are similar to those licensing NPIs, e.g conditionals, negation, yes/no questions. This licensing would appear to be sensitive to a form of wh-island Relativized Minimality - in 41 *shenme* in the lower wh-island may only be interpreted as a wh-interrogative expression ('what') and not as an indefinite ('something/anything') licensed by the propositional attitude verb *yiwei* in the higher clause:

(39) Ta xihuan shenme ma?
he like what Q
Does he like something(anything)?

(40) Ta yiwei wo xihuan shenme.
he think I like what
He thinks I like something.

(41) Zhangsan yiwei ta xiang-zhidao shei xihuan shenme.
Zhang think he wonder who like what
Zhang thought he was wondering who liked what.
NOT: Zhang thought he was wondering who liked anything/something.

Again it is not appropriate to attempt to capture this locality effect via a claim that indefinite-whs undergo raising to (potential) licensing elements, and that such movement to yiwei in 41 is blocked by Subjacency. If indefinite wh expressions were to raise to their licensors, then movement of a wh-expression to the +Q Comp of a yes/no question (as in 39) might lead to the incorrect prediction that they be licensed as wh-*interrogative* by the +Q Comp rather than wh-*indefinite*.

Thus in sum it is found that there are a variety of constructions which may appear to offer even strong motivation for assuming a covert movement analysis on the grounds of locality phenomena, but where such a movement analysis is ultimately not possible due to the presence of other negative evidence; consequently it can be assumed that there must exist locality conditions on certain purely non-movement relations which may nevertheless mirror those constraining applications of movement. The cases briefly reviewed above also indicate that in many instances there is indeed a valid distinction between claiming that a dependency is mentally represented via co-indexation/binding as opposed to being the result of covert movement, and hence that co-indexation does not just instantiate a formal purely notational equivalent to an analysis of covert movement, a charge often levelled against such ways of representing scope/dependencies.

Before we continue on to examine some serious consequences of the Iraqi Arabic, German and Hindi data in sections 2.1 - 2.3 for wh-questions and wh-feature-checking in other languages, we return to Hindi and consider an alternative *LF-raising* approach to the tense-related restrictions on wh-questions in Hindi outlined in Mahajan 1990, and endeavour to show that no kind of LF wh-movement analysis can successfully account for the critical patterning observed.

Writing prior to the advent of the Minimalist Program, Mahajan 1990 suggests that all wh-phrases in Hindi must appear in a position governed by a +Q Comp by LF, so that there will be LF raising of all those wh-phrases not in such a position at Spell-Out/S-structure. Mahajan attempts to account for the restrictions on the distribution of wh-phrases in situ in Hindi by first proposing that all LF wh-raising (cross-linguistically) is actually *QR*, and then relating this to a further proposal that tensed CPs in Hindi are extraposed during the course of a derivation, this resulting in such constituents becoming islands for LF extraction. He suggests that where wh-phrases occur licitly raised out of tensed complement clauses, e.g. as in 22, the wh-phrase is extracted from the lower CP *before* this CP has undergone extraposition, when it will be L-marked by V and not constitute any barrier for movement. Once extraposed however, the CP will no longer be L-marked and will block

extraction. At LF a wh-phrase in situ in such a tensed CP is argued to undergo QR to its dominating IP-node causing this to trigger further QR to the matrix IP and a position where the IP-adjoined wh-phrase could technically be governed by the +Q Comp (if adjunction operations may void barrierhood, i.e. of IP). In this sequence of QR, that of the lower IP to the matrix IP will be blocked from crossing the extraposition island, and so sentences such as 21 will be ill-formed.

Upon closer examination it would seem that there are a variety of reasons why such an account based on extraposition and LF wh-movement as QR cannot in fact be correct. First of all there is the purely theoretical question of why it is that LF wh-movement should have to be QR. If wh-phrases may undergo unbounded long-movement prior to Spell-out this should also be available as an option after Spell-out (if movement can indeed be motivated at this point). If the derivation and the computational principles affecting structure (Merge and Move) are uniform from lexical insertion through to LF, there seems to be no way to claim that movement may proceed in one way prior to Spell-out but not in the same way at LF; the suggestion that all post-Spell-out raising is 'QR' also effectively recognizes S-structure as a significant derivational point/level relative to which certain syntactic phenomena may be stated (i.e. movement is constrained to occurring in different ways before and after this point). The claim that post- but not pre-Spell-out wh-raising is 'QR' then seems to be purely stipulative, there being no real motivation why this should be the case and why more regular unbounded applications of Move/Merge may not apply in the post-Spell-Out part of the derivation. If a wh-element needs to occur in a position governed by a +Q Comp, in Minimalist terms to have its wh-features checked, there is no reason why raising of such an element should be inhibited and 'stopped short' at an IP-node.

Aside from the above-noted theoretical problem, Mahajan's QR/extraposition proposal faces other difficulties. First of all, the account does not extend cross-linguistically as it is predicted to - Mahajan suggests that wh-phrases may occur in situ in relative clauses in Chinese and Japanese but not in Hindi because in the former languages the CP in the relative clause is not extraposed from the N/D-head, whereas it is in Hindi (hence resulting in a

barrier to LF-extraction.) However, even if not extraposed, the CP in Chinese/Japanese relative clauses cannot be argued to be L-marked by the N/D-head, as the CP is not selected by N/D but in all analyses an adjunct to it, and so should in fact constitute a barrier. Furthermore an extraposition account predicts that wh-phrases should be possible in situ in tensed clauses in Iraqi Arabic as the CP will not be extraposed, yet wh-phrases are not permitted to occur in such environments. Mahajan also seeks to use the extraposition hypothesis to explain the fact that wh-phrases in situ in wh-islands in Chinese but not in Hindi may have scope higher than the wh-island, arguing that the CP wh-island in Chinese is not extraposed, therefore L-marked by V and hence not a barrier for LF raising of the IP to which the wh-phrase has been QR-ed. However, this incorrectly predicts that *any* wh element in a wh-island should be able to achieve higher scope outside the wh-island in Chinese whereas it has been seen that wh-adjuncts such *weishenme/zenme* 'why/how' may not. If L-marking and extraposition really were the critical factors involved, it is also predicted that wh-phrases in situ in V-initial Iraqi Arabic should be free to take scope higher than a containing (non-finite) wh-island, which is not the case, (see example 9).

The success of Mahajan's QR account also depends on a QR-ed IP being *adjunct*-like for purposes of extraction. Extraction of an argument from an extraposed CP will only result in a Subjacency strength violation, as Mahajan shows with other data. However wh-phrases in situ in extraposed CPs are *completely* unacceptable, paralleling the ungrammaticality resulting from extraction of adjuncts from extraposed CPs. The ECP as a Rizzi/Cinque-type condition on extraction-sites will not be violated by QR raising of the embedded IP, as the IP will be properly-head-governed by C^0 (which may be lexical, and which must be assumed to properly-head-govern IP in grammatical cases of QR IP-raising from *non*-extraposed non-finite CPs). Therefore ungrammaticality must result from failure of the IP to create a Government Chain through to its trace, this being blocked by the weak islandhood of the extraposed CP. However, if IP-raising *is* sensitive to weak islands then it should not be possible for such constituents to QR out of wh-islands in languages like Chinese and English; establishment of a Government Chain between the raised IP and its trace within the wh-island CP should similarly be blocked by

Relativized Minimality.

If an account in terms of (LF wh-movement as) QR and extraposition faces serious technical and theoretical difficulties, a 'bare' extraposition account (i.e. not taking LF wh-movement to be QR) will not work either. That is, even if one follows Mahajan's essentially derivational approach to the critical sequence of extraction and (claimed) extraposition but abandons the idea that post-Spell-out wh-movement must be different from that occurring prior to Spell-out, one still arrives at clear predictions which are not borne out by the data. As outlined briefly above, Mahajan suggests that licit overt wh-extraction from a tensed CP (as in 22) takes place when the CP is L-marked by V before it undergoes extraposition, while (hypothetical) LF wh-movement to Comp from within an extraposed CP would involve extraction from a non-L-marked constituent (hence the occurrence of wh-phrases in situ in such environments is ungrammatical). However, although such an account might initially seem quite plausible, it would not explain the fact that wh-phrases which are arguments should be *completely* ungrammatical when in situ in such tensed CPs. Overt extraction of arguments from extraposed CPs results in Subjacency-strength violations, as illustrated below in 42 and 43. In these two cases Mahajan argues that the presence of a wh-expletive/question-marker *kyaa* in the matrix clause can be taken as indication that the CP is base-generated in its PF 'extraposed' position and not moved there during the course of the derivation (see Mahajan for relevant details/motivation here). As a result the topic-phrase and wh-phrase could not have undergone extraction at any point when the CP was L-marked (compare 43 with other fully acceptable cases of wh-extraction from tensed CPs, assumed to have occurred prior to CP-extraposition, e.g. 22):

(42) ??Vah kuttaa$_i$ Raam-ne *kyaa* kahaa ki *kis-ne* t_i dekhaa thaa
that dog Ram-erg QP said who saw
That dog, who did Ram say saw?

(43) ??*kOn saa gem*$_i$ Raam-ne *kyaa* kahaa ki hamaarii tiim *kis din* t_i khelegii
which game Ram-erg QP said our team which day will-play
Which game did Ram say our team would play on which day?

When 43 is embedded under another higher clause containing a *kyaa* question particle, Mahajan in fact marks it as quite grammatical:

(44) Ravi-ne *kyaa* socaa ki [*kOn saa gem*$_i$ Raam-ne *kyaa* kahaa ki hamaarii tiim *kis din* t_i khelegii]?
Ravi-erg QP thought which game Ram-erg QP said our team which day will-play
Which game did Ravi think Ram said our team will play on which day?

Thus if extraction from an extraposed CP *maximally* results in a Subjacency-strength violation for arguments (as is generally noted to be the case cross-linguistically, extraposed clauses constituting weak islands only) there is no explanation why the occurrence of wh-arguments in situ in such tensed CPs should be so totally unacceptable (if the only well-formedness requirement on them is that they raise at LF to a +Q Comp), viz 21 repeated here:

(21) *Raam-ne kahaa [ki kOn aayaa hE]?
Ram-erg said who has come
Who did Ram say has come?

Therefore, although extraposed CPs might well appear to be *weak* islands for extraction (vis 42/43), and one could in fact adopt Mahajan's derivational approach in part to account for the fact that overt extraction in 22 (repeated again) is better than in 43, that in the former taking place before extraposition creates any islandhood, the *full* unacceptability of 21 cannot be due to any attempted LF raising of the wh-phrase as this should not result in ungrammaticality of this strength/no coherent-intelligible reading but rather be mildly ungrammatical and on a par with 43. Instead, we suggest as before that examples such as 21 are ill-formed for the simple reason that feature-checking of the wh-phrase has not taken place by Spell-out, causing the structure to crash (completely).

(22) *kOn*$_i$ Raam-ne kahaa ki t_i aayaa hE
who Ram-erg said has come
Who did Ram say has come?

This concludes our examination of data from three quite unrelated languages all pointing to the same basic conclusions with regard to wh-feature-checking, its necessary point of application and the 'non-strict' locality of a relevant checking domain. We now turn our attention to English and the problems of multiple-wh questions in languages of this type.

3.0 Multiple-wh questions in English

In this section it will be shown that the syntactic patterning of multiple-wh questions in English-type languages, where only a *single* wh-phrase from any set of wh-elements undergoes overt raising to +Q Comp, is ultimately incompatible with certain basic Minimalist assumptions concerning the nature of feature-checking, and therefore calls for a general re-examination of (wh-)movement and Checking Theory. This will lead both to the same conclusions regarding the non-strict locality of feature-checking as already made in section 2, and also to a re-assessment and re-interpretation of the motivations underlying actual wh-movement in English and other similar languages. We will first consider in some detail Chomsky's 1993 account of movement and feature-checking, indicating that the Principle of Greed and various other assumptions made in this work are at odds with the data of multiple wh-questions, and then turn to more recent and revised suggestions in Chomsky 1995, arguing that even if the Principle of Greed is abandoned and a somewhat different system adopted as outlined there, the fundamental problems of multiple-wh questions still remain very much unaccounted for.

In Chomsky 1993, the essential problem stems from the proposal that movement may *only* take place in order to satisfy properties of the element moved (the Principle of Greed) interacting with the suggestion that morphological features of a certain strength must *uniformly* be checked by a specific point in the derivation. If the overt raising of a single wh-phrase prior to Spell-out can only be motivated by a need for (wh-)feature-checking on the

wh-phrase itself, which furthermore *must* occur before the structure is fed off to PF, the licit occurrence of other wh-phrases still in situ at PF is difficult to explain. On the assumption that *all* elements of a certain type (e.g. wh-phrases, NPs etc) carry the same sets of features in need of checking, it is predicted that all tokens of wh-phrases in English should be (wh-)feature-checked at the same derivational point, hence prior to Spell-out. However, if feature-checking is limited to taking place within the Specifier position of the checking head, it would seem that the in situ wh-phrases are not checked by Spell-out, contrary to expectation. It would therefore seem that one (minimally) either has to abandon the Principle of Greed or modify the locality conditions governing feature-checking, if other general claims on such feature-checking are to be maintained. As there is now additional and independent evidence (set forth in section 2) already arguing for a different view of the locality of feature-checking, we examine the second possibility and suggest that checking may potentially occur within larger domains than previously imagined. In Chomsky 1995, by way of contrast, the Principle of Greed is in fact replaced with other assumptions (for reasons which ostensibly do not directly relate to wh-questions); however, it will be shown that even without Greed as a constraint on movement the problems of multiple-wh questions still persist, and that ultimately what must be revised is indeed the locality of feature-checking.

3.1 Chomsky 1993 - A Restatement of the problem

Chomsky 1993 suggests that syntactic movement, whether overt or covert, takes place only in order that certain morphological properties of the element undergoing movement may be satisfied. A linguistic item, a head or maximal projection, may be generated with a set of features that require checking during the course of a derivation, where checking is essentially a matching of the feature-set on the head/maximal projection with those on a second checking element. When such matching/checking has taken place, the relevant features delete. Features which are morphologically 'strong' must be checked and deleted prior to Spell-out, otherwise they will continue to be visible at PF and being uninterpretable at this interface level cause the structure to crash. Features that are 'weak' on the other hand need not be checked and deleted by

Spell-out as (it is claimed) their presence at PF will not cause any problem of uninterpretability at this level, perhaps being invisible at PF due to their 'weak' nature. Chomsky further suggests that post-Spell-out LF movement is: 'less costly than overt operations. The system tries to reach PF "as fast as possible", minimizing overt syntax.' (Chomsky 1993 p.36)[11]. Therefore, for reasons of Economy, the principle of Procrastinate dictates that movement for checking of weak features should occur as late as possible and only after Spell-Out, *unless* other factors would block such post-Spell-out checking, in which case Procrastinate may exceptionally be over-ridden (this we return to below).

Instances of overt wh-movement attested in English must in this framework be assumed to be *solely* triggered by the need for (wh-)features on the wh-phrase to be checked:

> "..operations are driven by morphological necessity: certain features must be checked in the checking domain of a head, or the derivation will crash. Raising of an operator to Spec of CP must, therefore, be driven by such a requirement. The natural assumption is that C may have an operator feature (which we can take to be the Q or wh- feature standardly assumed in C in such cases) and that this feature is a morphological property of such operators as wh-. For appropriate C, the operators raise for feature checking to the checking domain of C: [Spec, CP], or adjunction to specifier (absorption), thereby satisfying their scopal properties." (Chomsky 1993 p.45)

In previous work within the Principles and Parameters framework (specifically Government and Binding Theory) the obligatory *overt* raising-to-Comp of a (single) wh-phrase in languages such as English was essentially motivated with

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[11] It is not necessarily clear why post-Spell-out movement should in fact be less costly than that occurring prior to this point, and, if taken literally, might seem to distinguish what is understood to be a uniform computational operation (movement) in a way that is not desirable - i.e. it might be tantamount to suggesting that movement in one part of the derivation is actually by nature and effect different from the same operation occurring at another point of the derivation and thereby accord significance to a level of S-structure.

reference to properties of the +Q Comp and not commonly ascribed to (immediate) needs of the wh-phrase itself. Whereas it was generally assumed that all wh-phrases must appear in a +Q Comp scope-bearing position for reasons of quantification prior to interpretation, such requirements should not need to be met before LF. That overt raising of a single wh-phrase has to occur by S-structure (Spell-out) in certain languages was therefore seen to be the result of a simple parameter relating to the +Q Comp set in a particular way. Rizzi's 1991/94[12] Wh-Criterion formalized this into the statement/well-formedness condition that a (+wh)+Q Comp in English must contain a +wh element in its specifier position by S-structure. Cheng 1991 attempted to add certain intuitive content to such a condition, suggesting that every +wh interrogative clause (in *all* languages) need be overtly 'typed' as such, this being optimally effected by the insertion of +wh question particle (null or overt) if a language possessed such, and by overt wh-movement if a language did not (movement being seen to be the more costly strategy in economy terms hence avoided if a particle could be used).[13]

Within the Minimalist framework of Chomsky 1993 however, it is *not* possible to claim that overt wh-raising takes place to satisfy any property of/condition relating to the +Q Comp. Chomsky argues that there is good reason for believing that a principle of Greed rules out as impossible any operation that is effected by one particular element in order to satisfy needs of/benefit another element:

> "Move-α applies to an element α only if morphological properties of α itself are not otherwise satisfied. The operation cannot apply to α to enable some different element β to satisfy <u>its</u> properties. Last Resort, then, is always "self-serving": benefitting other elements is not allowed. Alongside of Procrastinate, then, we

[12] Rizzi's 1991 Geneva manuscript was only actually published in 1994.

[13] Despite the obvious intuitive appeal of such a typing theory, Cheng is nevertheless forced to admit that: 'it is not clear what the S-structure nature of Clausal Typing follows from.'(p.34) i.e. why it should need to take place by S-structure/Spell-out if essentially an interpretative hence *LF*-related phenomena. She adds in a footnote that: 'Intuitively speaking, if there is such a thing as Clausal Typing, it is needed to provide information for phrasal phonological processes and not to interpretation in particular.'

have a principle of Greed: self-serving Last Resort." (1993, p.47)

Therefore, if overt wh-raising is necessary, this must be taken to be triggered by a need to satisfy direct requirements of the wh-phrase itself, that 'wh'-features present on the wh-phrase be checked. The Wh Criterion/Clausal Typing Hypothesis are then recast in terms of feature-checking and feature strength - Chomsky 1993 suggests that obligatory overt movement will be forced in a language if its wh-features are strong and hence need to check and delete prior to Spell-out and PF.

What is problematic for such proposals is that English is a 'mixed' language in its multiple wh-questions - a *single* wh-phrase must necessarily raise to Comp by Spell-out but others remain in situ, as e.g. in:

(45) Who did John give t what?

If both/all instances of wh-phrases carry wh-features, and if obligatory overt raising of a (single) wh-phrase indicates that wh-features in English are strong and must hence be checked by Spell-out, it is clearly expected that the wh-features on *all* such wh-phrases should be checked by Spell-out. As feature-checking is claimed to be possible only in the specifier position of a checking head (or adjoined to such a head as in the case of e.g. verb-movement) it would seem that the wh-features on secondary in situ wh-phrases like <u>what</u> in 45 above will not be checked and deleted prior to Spell-out. Multiple wh-questions of this sort should consequently always crash at PF. The fact that they are perfectly well-formed indicates that something in the proposed account cannot be correct.

Chomsky 1993 does not approach or discuss this problem directly and may not have foreseen this consequence of the introduction of the principle of Greed. However, the position he might adopt with regard to it may be indicated indirectly. For other unrelated reasons concerning certain Binding Theory phenomena, Chomsky suggests that in situ wh-phrases in fact may not undergo covert LF raising to Comp, contrary to previously held views, but rather remain in situ throughout the derivation, their interpretation as interrogative elements resulting from means other than movement to a +Q

Comp:

> "The LF rule that associates the in-situ wh-phrase with the wh-phrase in SpecCP need not be construed as an instance of Move-α. We might think of it as the syntactic basis for absorption in the sense of Higginbotham and May (1981), an operation that associates two wh-phrases to form a generalized quantifier. If so, the LF rule need satisfy none of the conditions on movement." (p.36)

Overt movement of a single wh-phrase will then take place for checking of a wh-operator-feature and not be a well-formedness condition on the interpretation of all wh-phrases.

Although Chomsky is not fully clear on this point, it might seem to be indicated that he is adopting the assumption that for any multiple wh-question only a *single* wh-operator is present and required. If only a single wh-operator is present then only this wh-operator will carry the operator-features in need of checking and only the wh-phrase actually hosting the wh-operator will undergo movement to Comp. Alternatively Chomsky is assuming that wh-operators are present with every wh-phrase but that secondary wh-operators do not need to move to Comp for their interpretation or for absorption, as indicated in the above quotation. This second possibility is clearly inconsistent with the proposal that it is for checking of a wh-operator feature that a wh-phrase raises to Comp - if other secondary instances of wh-phrases carry wh-operators it must be assumed that they also carry wh-operator features and that these are as much in need of checking as those on 'primary' raised wh-elements. Movement of the secondary wh-phrases for feature-checking is then predicted to be necessary, contra what is observed.

Chomsky would seem to have to claim therefore that only a single wh-phrase per set of wh-phrases interpreted as questioned at a particular +Q Comp is actually generated/inserted from the lexicon together with a wh-operator. We believe that this is not a very plausible assumption to make, for a variety of reasons. First of all it should be noted that in the past it has always been assumed that each individual wh-phrase needs to raise to Comp

(at some point) to form an operator-variable structure for reasons of quantification and interpretation, that the wh-element in every wh-phrase needs to bind a variable of some sort corresponding to its restriction. It has not been common to assume that a single wh-element in one wh-phrase e.g. 'which' in 'which candidate' will also directly bind another wh-element in a second wh-phrase e.g. 'how many' in 'how many questions', as in a sentence of the type below:

(46) The panel needed to know which student attempted how many questions.
→ ...for which x, how many y, x a student attempted y questions
NOT: ...for which$_i$ x, x a student attempted [how many$_i$ questions]

'which' would seem to be an operator relating directly to a set/restriction of specific individual entities - 'students', whereas 'how many' quantifies over possible numbers. It does not seem right to suggest that 'which' may directly perform an operator function for both wh-phrases binding two independent variables. Rather in such a general view of the interpretation of wh-questions, both wh-phrases should require that the wh-elements generated in them individually quantify over the set/restriction represented by the NPs of the wh-phrases. There may then subsequently arise some form of absorption where both operators combine to result in pair-list answer forms, but both operators may be assumed to be still essentially present and quantifying over their respective sets in such absorption, hence that for each wh-phrase there is a discrete wh-operator. If raising to a +Q Comp is then argued to be necessary to check wh-operator-features on one of a set of wh-phrases, it should be necessary for all such wh-phrases.

On a more general level, it also seems intuitively odd to claim that only one of a particular identifiable class of elements, notably wh-phrases, comes carrying a feature that is absent from other members of the same class. When pre-Spell-out raising is observed to occur (in English) with subject but not object DPs the possibility is not entertained that only the former but not the latter have DP-features in need of checking. Furthermore and quite critically there is very strong evidence from a number of languages that

(wh)features are indeed present on *all* wh-phrases and that every wh-phrase does need to be checked. This has already been shown for Iraqi Arabic, Hindi and German in section 2, where it was noted that in multiple wh-questions all wh-phrases must appear in positions where they can be feature-checked by Spell-out, and that even in non-multiple-wh questions the raising of a wh-phrase can only be ascribed to requirements of the wh-phrase itself and not those of the +Q Comp. If it can then be shown for a variety of unrelated languages that all members of the set of wh-phrases present carry wh-features in need of checking, it may justifiably be concluded that this is a general property of wh-phrases cross-linguistically, just as it has been assumed that argument DPs in all languages carry case (and possibly agreement) features in need of checking on the basis of DP-raising in certain languages.

The assumption that only a single set of wh-features requiring checking occurs per set of wh-phrases interpreted at a single +Q Comp would seem to stem from the observation that in English only a single wh-phrase needs to move (overtly) to Comp whereas secondary wh-phrases appear to occur freely in situ in all island types and therefore would not seem to have to satisfy any observable conditions relative to the checking +Q Comp. However, it is not in fact entirely clear that the distribution of secondary wh-phrases in situ in English is completely free. Brody 1994 suggests that while they may occur inside one island they may not licitly appear embedded in more than one island, and Chomsky 1993 gives examples where a secondary wh-phrase may not appear within a topic-phrase:

(47) *Who would have guessed that [proud of which man] Bill never was t?

If in situ secondary wh-phrases are indeed subject to locality restrictions resulting from the structure in which they are embedded this would seem to indicate that their relation to the +Q Comp is not in fact free of any conditions, and suggests that as Iraqi Arabic, Hindi and German wh-phrases all wh-phrases in English also carry a wh-feature which must be checked/licensed.

Apart from the clear restrictions on the distribution of all wh-phrases in Iraqi Arabic, Hindi, German and possibly English too, which lead one to conclude that all such elements are subject to a licensing/checking requirement,

there is also direct and indisputable evidence from a variety of other languages that all wh-phrases carry wh-features in need of checking and that it is not just a single wh-phrase which has a wh-'operator'-feature. In many languages of Eastern Europe, e.g. Hungarian, Romanian, Bulgarian, Czech, Serbo-Croat, Russian etc all wh-phrases are observed to undergo obligatory overt movement to Comp[14]:

(48) Koj kogo vizda? (Bulgarian)
who whom sees
Who sees whom?

(49) Cine cu ce merge? (Romanian)
who with what goes
Who goes by what (i.e. means of transportation)?

(50) Ko koga vidi? (Serbo-Croatian)
who whom see
Who sees whom?

(51) Kdo koho videl? (Czech)
who whom saw
Who saw whom?

Such examples clearly argue against a view in which the semantics of wh-questions require that a single wh-operator be present (per multiple wh-question) and that it is the presence of this single wh-operator which forces raising of a wh-phrase for checking of operator-features. Rather it is seen that it is a property of wh-phrases in general that all such elements carry wh-features, whether these actually are 'operator' features or some other purely formal morphological features such as are present on DPs. Again, it seems unlikely that what triggers raising of all wh-phrases in these languages and of a single wh-phrase in English should not be the same feature-checking

[14] Data here is taken from Rudin 1988.

requirement and that one should therefore not expect all tokens of wh-phrases in English to carry and need to check such wh-features.

This being the case, English type mixed raising and in situ languages do present a serious problem for Chomsky's 1993 feature-checking account when the Principle of Greed is taken into consideration (also even without the Principle of Greed in fact, as will be shown below in section 3.2). If all wh-phrases carry wh-features and these features are uniformly of the same strength, then all wh-phrases should require checking by the same derivational point. If the relevant wh-features are strong, then all checking should take place prior to Spell-Out, and given the strict Spec-head locality argued to constrain feature-checking relations *all* wh-phrases should then undergo *overt* raising to Comp (which they clearly do not). If wh-features are uniformly weak, then by Procrastinate all raising to Comp should only take place at LF; however it is observed that one (and only one) wh-phrase must nevertheless raise to Comp in the overt syntax. As the Principle of Greed dictates that movement may only take place for the benefit of the element actually undergoing movement, it has to be concluded that such raising is for checking of wh-features on the wh-phrase, which consequently must be strong. Given that secondary wh-phrases must therefore also be assumed to carry strong wh-features, but licitly occur in situ at PF, it has to be assumed that strong wh-features on these latter elements are checked 'long-distance' on the wh-phrases in their in situ positions, and hence that feature-checking relations cannot always be subject to occurring within the strict locality of Spec-head/head-adjoined configurations.

The problem is similar in ways to that involved in attempting to capture within new (i.e. here 1993) Minimalist assumptions the part of the Extended Projection Principle (EPP) that every clause requires that a subject appear overtly *raised* in SpecTP in English, whereas raising of objects is assumed to only take place after Spell-out. Given Greed, overt subject raising can only be triggered by a need for DP-features (case or agreement) on the DP itself to be checked; these DP-features must also be strong, as subject raising is forced to take place overtly. If object DPs also carry DP case/agreement features of the same strength as those on subject DPs, hence *strong,* (this indeed being explicitly assumed in Chomsky 1993 - p.44), then object DPs should also be

forced to undergo overt raising for checking of these features, contra what is observed. In a pre-publication version of Chomsky 1994, a suggestion is made which might circumvent this problem:

> '..certain functional categories F have a DP-feature that allows F to check properties of DP (Case, agreement) in [SPEC, F] position. If this DP-feature is strong, the derivation converges only if the feature is checked pre-Spell-Out; if it is weak, Procrastinate requires covert raising *unless the DP can have its features checked only by overt raising* (our italics). Thus the Extended Projection Principle (EPP) holds if INFL (say, Tense) has a strong DP-feature, and object raising is non-overt if AGR has a weak DP-feature.' (Chomsky 1994 p.24)

Supposing that: a) DP-features on T^0 are indeed strong and will delete by Spell-Out, b) that those on $AgrO^0$ are weak and will not delete until LF, and c) that DP-features on DPs themselves are uniformly weak, then it may in fact be possible to account for overt subject but covert object raising. A subject DP will be forced to raise overtly in violation of Procrastinate because otherwise the DP would not be able to check its features at any point - once the DP-features on the checking head have deleted (by Spell-out, being strong) they will no longer be present to check the DP-features on the DP itself. Procrastinate may thus be over-ridden for Convergence. Object-raising for checking of the same essential case features on the other hand will occur only at LF because the DP-features on the relevant checking head for the object are weak and will still be present after Spell-out to check the object's DP-features.

In this way Chomsky may perhaps be able to maintain the effect of the EPP without violating the principle of Greed - the checking head T does not directly trigger pre-Spell-out subject raising of a DP with weak DP-features (ostensibly weak as the object DP delays raising for checking of the same features until after Spell-Out) in order to satisfy any checking requirements of its own, but such raising must occur prior to Spell-Out in violation of Procrastinate because otherwise the DP would not be able to have its features checked at any point in the derivation. A fairly obvious but important point

to note here is that once the potential checking features on a functional head have deleted, they are no longer present to perform any checking function at a later derivational point.

Given that the patterning of multiple-wh questions in English presents problems of the same basic type as the EPP for any Minimalist interpretation - i.e. in both cases only one of a set of elements carrying the same type of features is forced to undergo overt raising - one might then wonder whether a treatment of wh-questions parallel to that of the EPP above is possible. It could be suggested that the wh-features on a wh-phrase are weak but that raising must nevertheless take place prior to Spell-out because strong features on the +Q C force it to be deleted by Spell-out - if the necessary checking potential of the head C is no longer present after Spell-out then this could force early raising of the wh-phrase, as it would not be able to be checked later. However, such a proposal cannot work here in the case of multiple wh-questions; the problem is simply that if pre-Spell-out deletion of the relevant checking features on C means that checking cannot occur after Spell-Out, it is predicted that wh-features on those wh-phrases remaining in situ at Spell-out will remain unchecked throughout the derivation and therefore should cause the structure to crash, yet secondary wh-phrases are fully well-formed in situ in English. In the EPP case it is (perhaps) possible to motivate early raising of a DP subject carrying weak features vs. post-Spell-Out raising of objects via reference to the fact that subject and object DPs raise to be checked by discrete and separate functional heads; it may be suggested that checking features on one of the two heads are strong and might need to delete by Spell-out whereas the features on the other head may be weak and so not necessitate deletion before PF. However in the case of multiple wh-questions all checking of wh-features must be assumed to be carried out by the same functional head; if forced to delete by Spell-out, the necessary checking potential of such a head could obviously not be present to check other wh-phrases raised at a later stage.

Thus in sum, if the Principle of Greed does not allow one to propose that overt raising of a single wh-phrase in languages like English takes place to satisfy properties of a +Q Comp, and wh-features on wh-phrases must consequently be assumed to be strong (on all wh-elements) as argued, one is

left with the paradox that secondary wh-phrases must be feature-checked at a derivational point when they clearly do not occur in the locality commonly taken to be necessary for feature-checking (i.e. in Spec of the checking head C^0). We therefore suggest it must be concluded that as with Iraqi Arabic and Hindi wh-features on wh-phrases in English may in fact be licensed/checked within a larger domain than that argued for in Chomsky 1993, and specifically that wh-features on wh-phrases in situ at Spell-Out are indeed checked in the in situ positions of these wh-phrases. This is obviously (again) a non-trivial conclusion raising many serious questions about movement, the nature of feature-checking and the locality of a checking domain. One might question whether the principle of Greed should not perhaps be abandoned given the problems for an account of multiple wh-questions that its introduction would seem to necessitate. However, quite *independent* of the interaction of Greed and the patterning of multiple wh-questions in English-type languages we have converging evidence from other sources that the original account of the locality of feature-checking is in need of modification. In chapter one and section 2 of the current chapter abundant evidence was provided indicating that in situ wh-phrases do not undergo *any* covert LF-raising to Comp, yet it was also critically shown that *all* wh-phrases must be assumed to carry wh-features and hence are subject to (wh-)feature-checking. If certain wh-phrases at no derivational point occur raised to a +Q Comp yet nevertheless do require checking/licensing by such a head, this indicates that wh-feature-checking will take place non-locally and not necessarily within the strict locality of a Spec-head relation with the checking functional head. In the case of Iraqi Arabic and Hindi it was further argued that wh-checking must take place prior to Spell-out (otherwise the illicit occurrence of secondary wh-phrases in situ in environments that are not islands for extraction is unexplained), so that wh-feature-checking will clearly often be effected between a +Q Comp and a wh-phrase in situ. Such conclusions, it should strongly be emphasized, are arrived at quite without reference to the Principle of Greed and any complications it might bring to the interaction of movement and Checking Theory. If the Principle of Greed is then not solely responsible for necessary revisions to the locality of feature-checking and such revisions are independently called for, one may not be tempted to entertain abandoning Greed simply in order to maintain previous

assumptions on feature-checking - these assumptions must be altered in any case it would seem.[15]

3.2 Chomsky 1995

In recent work Chomsky 1995 has indeed replaced the Principle of Greed with a somewhat different set of assumptions concerning movement and what may legitimately give rise to it. However as hinted above, abandoning Greed as a general constraining factor on movement does not in itself avoid the fundamental problems created by feature-checking in wh-questions, and it is essentially the strict locality imputed to feature-checking relations which would rather seem in need of re-assessment.

In Chomsky 1995 it is suggested that feature-bearing elements (heads or maximal projections) primarily undergo raising to satisfy feature-checking requirements relating to other functional heads. Chomsky also suggests that there is a significant distinction between + and -*interpretable* features. -Interpretable features such as case will *always* require checking at some point in the derivation; if -interpretable features are strong then raising to the checking head must take place immediately upon introduction of the relevant features on the head (e.g. strong DP-features on T^0 will necessitate immediate raising of a subject to check them - the EPP); if -interpretable features are weak, raising for checking will be delayed until LF by Procrastinate (e.g. checking of object case-features). If features are however +interpretable, for example wh (or agreement), it is suggested they will only require checking when *strong* and present on a functional head (such as C^0), and +interpretable features on *XP*s (such as wh-phrases) will not require checking at *any* derivational point.

Considering wh-questions then, if wh-features introduced on C^0 are strong, this will result in immediate (hence pre-Spell-Out) raising of a single wh-phrase to check these features; if wh-features on C^0 are weak, then raising will not take place prior to Spell-Out and not at LF either, +interpretable features

[15] Greed *may* of course ultimately be abandoned for other reasons, as per Chomsky 1995.

only being in need of checking when strong. Secondary wh-phrases are thus predicted/argued to have no (wh-)feature-checking requirements, not to undergo raising (at any level), and wh-movement will only ever take place prior to Spell-Out.[16] Here however it has been shown that a) *wh* as a feature can be assumed to require checking on wh-phrases themselves and not just on Comp, and b) that *all* wh-phrases (hence secondary wh-phrases too) have such a checking requirement, this visibly giving rise to movement of secondary wh-elements in Hindi, Romanian etc. It can therefore be concluded contra Chomsky's proposals concerning the putative +/-interpretable distinction that *wh* is a feature which cross-linguistically is in need of checking on (all) wh-phrases, and so in fact is similar to the (-interpretable) case-features on argument DPs.

Reflecting back now on the patterning of multiple-wh questions in English, if the wh-features on wh-phrases are taken to be strong (though Chomsky appears to see the strong/weak distinction as only relevant to features on functional heads and not on XPs), this should require that all wh-phrases raise overtly to Comp for immediate/pre-Spell-Out checking, as in Romanian. As they clearly do not, it cannot be assumed that they are strong - *if* the wh-checking domain is restricted to being just Spec of C^0. If the wh-features *on wh-phrases themselves* are consequently analyzed as being weak, it might perhaps be suggested that wh-features on the $+Q\ C^0$ are in fact strong and that overt raising of a single wh-phrase then takes place to check these strong features (Greed no longer blocking such movement). The weak wh-features on other, secondary wh-phrases would then be checked by LF raising to Comp. However, much strong evidence has been presented in chapter one that in situ wh-phrases in English (and other languages) do *not* undergo any raising to Comp at LF, e.g. Binding Theoretic facts, locality phenomena, Weak Crossover, Antecedent-Contained Deletion etc (and Chomsky himself assumes that such elements do not raise at LF, perhaps for similar reasons). Therefore secondary wh-phrases cannot be taken to be checked *in SpecCP/Comp* as a result of LF raising either.

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[16] Chomsky 1995 thus essentially follows Chomsky 1993 in assuming that there is no LF raising of any wh-phrase.

The critical problem thus still remains in Chomsky 1995 that wh-features on *all* wh-phrases will indeed require checking by Comp (as argued here), but secondary wh-phrases will *at no point in the derivation* actually appear raised in what is argued to be the necessary checking domain - i.e. Spec of C/C. The replacement of Greed with various other assumptions then ultimately does not allow for any satisfactory account of multiple-wh questions (in English), and neither Chomsky 1993 nor Chomsky 1995 is able to successfully explain the patterning observed. Instead it seems that what crucially must be changed is the assumption/claim that feature-checking is universally confined to occurring solely within the strict locality of Spec-head/head-adjoined configurations, and that in the case of English-type multiple-wh questions the checking of wh-features on secondary wh-phrases *must* in fact be effected non-locally between Comp and the wh-phrases in their in situ positions, no matter what derivational point it is assumed this checking need be satisfied by. Feature-checking may hence again potentially be 'long-distance', as indeed argued for on the basis of other independent data.

Such conclusions immediately raise at least two serious questions, namely:

(a) Given that wh-feature-checking is (now) assumed to be possible non-locally in English, why is it that a (single) wh-phrase is nevertheless forced to undergo raising to Comp?

(b) If 'long-distance' checking outside of the immediate specifier position of a checking head is possible in the case of wh-phrases, why might this not be possible for other elements requiring checking, e.g. DPs, inflectional elements? Related to this, one may also ask whether the potential 'non-local' nature of wh-feature-checking truly is an isolated case, or whether there are other instances where it may be concluded that checking takes place non-locally.

Question (b) we will return to and consider in the final sections of this chapter. We now turn to question (a) and re-examine what may actually motivate movement in wh-questions.

4.0 Motivation for wh-movement

Having argued that secondary wh-phrases in multiple-wh questions in English are licensed/feature-checked in their in situ positions, hence that a wh-phrase need not occur in Spec of a +Q Comp in order to be feature-checked, we seem to be left without an explanation for why overt raising of a single wh-phrase *must* take place in English - i.e. if licensing in situ is potentially available, then why should any wh-phrase have to raise to Comp? The relevant generalization appears to be that once a single wh-phrase has been raised to a +Q Comp (in English) then all instances of wh-phrases are licensed, vis:

(52) *Did John give what to who?

(53) What did John give to who?

Raising of the wh-phrase in 53 essentially makes the clause into a wh-question and requires that values for all/both wh-phrases in the CP be given in any answer-form. We would now like to suggest that this movement is necessary in order to 'trigger' C as an appropriate licensor for (all) wh-elements in its scope and licensing-domain, that C is critically ambiguous prior to wh-movement in ranging over various potential values - focus, +wh+Q, yes/no+Q etc - and that wh-movement into Spec of C will disambiguate C, thus activating it as a licensor for (solely) wh-type elements.

The specifier position raised to by the wh-phrase may in fact rather be that of a general Focus or Polarity Phrase; Culicover 1992 shows that various elements may move into this position and gives evidence that PolP is not to be confused as CP, occurring as it does also after overt complementizers in embedded clauses:

(54) John claimed that *War and Peace* he had never read. (simple focus)

(55) John said that *not only Bill* had Sue deceived, she had also taken in Jo. (Neg-fronting and inversion)

(56) *So angry* was he that John walked out. (*So*-fronting and inversion)

Whether the position moved to is Spec of a post-CP Focus/Pol-phrase or SpecCP itself is in fact not of great importance here. What we wish to claim, in the general spirit of Culicover[17], is that all such movement (including wh-raising) is to the same Spec position, and that prior to raising C/Pol/F is ambiguous in respect of its 'polarity' setting. Movement of an element of a certain type into SpecCP/PolP/FP will then disambiguate C/F/Pol via a simple process of Spec-head agreement. Once disambiguated and triggered in a particular way the C/F/Pol will be able to function as a licensor for *all* elements of that particular type, whether the element is directly raised into SpecCP/FP/PolP or occurs in situ in the licensing domain of the head. As only a single element (e.g. a single wh-phrase) need raise in order to effect such triggering of C/Pol/F, other elements of the same type are indeed free to remain in situ for licensing (providing they occur within the licensing domain of C/Pol/F).

In a certain way the above proposal may reflect a general idea put forward in Cheng 1991 that wh-movement occurs to 'type' a clause as +WH, though here the ultimate motivation for such movement is seen to be a formal morphological requirement on *wh-phrases* themselves that they be licensed by Spell-Out, rather than movement satisfying a constraint on *CPs* that they be identified as (+WH)-interrogative. Following on from this, adapting and making use of another suggestion in Cheng, we may argue that in some languages Pol/C/F is *not* ambiguous in nature, or rather that there exists an alternative way to disambiguate it, via the direct insertion of question particles, such as *ne* in Chinese. If C/Pol/F can be disambiguated and triggered in this way, then no raising of wh-elements need take place and all wh-phrases may occur and be licensed in situ (providing again they occur within the licensing domain of the C/F/Pol and are not blocked by any locality constraints on licensing).

Thus in English the suggestion is that raising of a single wh-phrase

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[17] Culicover actually suggests that wh-movement is to SpecPolP in matrix questions but to SpecCP in embedded interrogatives in an attempt to account for lack of subject-auxiliary inversion in embedded questions (noting that subject-auxiliary inversion does occur with *So-* and *Neg-* preposing in embedded CPs and these are therefore taken to raise to SpecPolP in all clauses). We believe there are other ways to explain the lack of SAI with non-matrix questions and suggest that one would not expect wh-movement to take place to different clause-internal positions in embedded and matrix questions. Consequently we assume that wh-, *So-*, *Neg-*, and pure focus movement raises an element to the same SpecPolP/FP/CP in all clause types.

takes place to SpecCP/F/Pol in order to disambiguate and activate it as a licensor for all wh-elements in its domain. Secondary occurrences of wh-phrases may remain in situ and are not required to undergo such movement as raising of a single wh-phrase will suffice to trigger C/Pol/F. In a 'wh in situ' language such as Iraqi Arabic wh-movement is not required in wh-questions, and so we may assume that C/F/Pol may be unambiguously +wh+Q, perhaps due to the base-generation of a (possibly null) +wh question particle in C/Pol/F. However, movement of a wh-phrase *may* occur in order to bring this element into a position where it can be licensed by the +wh C/Pol/F-head (which we will now refer to simply as C/Comp, though understanding this may in fact be a Pol/F(ocus) head) - for example when licensing of a wh-phrase in situ is blocked by +finite tense in a lower CP. This movement of the wh-phrase will not necessarily have to be to SpecCP, but just to any position available within the licensing domain of the +Q Comp (i.e. within its tense domain), Hindi showing clearly that movement may indeed be to non-SpecCP positions but still result in successful licensing of a wh-phrase base-generated in a lower tense domain (see Mahajan 1990 and examples such as 134 in chapter 4 of this thesis). In this respect it should (importantly) be noted that 'wh-movement' in languages like Iraqi Arabic/Hindi is actually unlike wh-movement in English and does nothing to alter the essential licensing potential of a Comp; if two wh-phrases both illicitly occur in a lower opaque tensed CP in Iraqi Arabic/Hindi, movement of one of these to the matrix will not result in the second being licensed through some activation of Comp as a licensor - both wh-phrases must move into the licensing domain of the +Q Comp or the structure will automatically crash.

Given this analysis of wh-raising in English, languages such as Romanian, Serbo-Croat and Czech may now seem problematic. Here, it may be recalled, *all* wh-phrases in multiple wh-questions undergo raising to Comp. Clearly only one of these should need appear in the +Q Comp for triggering purposes if C is ambiguous, so raising of the others would seem redundant, and therefore should not take place. We suggest that movement is forced to take place here directly as a result of (more restrictive) locality conditions on wh-licensing. Evidence has already been provided that there exist locality conditions on the distribution of wh-phrases in situ which cannot be reduced

to a bar on LF-movement, and that there appears to be cross-linguistic variation with regard to the environments that may be opaque domains for wh-licensing (i.e. tensed clauses in Iraqi Arabic/Hindi but not in English). We would like to argue that the obligatory fronting of all wh-phrases in Romanian/Bulgarian etc is indication that wh-licensing in these languages is in fact restricted to taking place solely within the strict locality of a Spec-head configuration. All wh-phrases must therefore raise to Comp to be licensed/feature-checked by Spell-Out (and wh-raising in Romanian/Bulgarian is then at least partially akin to wh-raising in Iraqi Arabic/Hindi - a wh-phrase must raise to a certain local domain to be licensed by the +Q Comp, here Comp itself). Considering a range of languages we may find that English is perhaps least restrictive in terms of the locality constraints on licensing of wh-elements - a wh-phrase appears to be able to occur in situ in all island types and still be licensed by Comp. Languages like Iraqi Arabic are however more restrictive - wh-phrases may not occur in wh-islands, relative clauses nor indeed in tensed complement clauses (although they may occur in non-finite adjunct CPs). Still more restrictive in terms of locality would be Czech and Serbo-Croat. Rudin 1988 argues that there is a significant division amongst East European multiple-wh fronting languages and provides compelling and varied evidence for assuming that in Romanian and Bulgarian the fronted wh-phrases all appear in SpecCP or adjoined to SpecCP, while in Czech, Serbo-Croat and Polish a single wh-phrase moves to SpecCP and all others are adjoined to *IP* (see Rudin for details).[18] Consequently raising of wh-phrases must take place minimally to the locality of an IP-adjoined position adjacent to the +Q Comp. In Romanian and Bulgarian, as wh-phrases may not occur IP-adjoined but are actually forced to appear either in SpecCP or adjoined to SpecCP, the locality on wh-licensing is even more strict than in Czech/Serbo-Croat. Finally we might claim that languages such as Italian are most restrictive of all - for no obvious semantic reason, multiple wh-questions are not permitted in Italian

[18] Therefore the movement of wh-phrases in the latter group, which can only be for checking of wh-features, does not land *all* wh-phrases in what is claimed by Chomsky 1993 to be the (strict) checking domain of the checking head i.e. in Spec of C, adjoined to SpecCP or adjoined to C itself, and as a result it can again be assumed that (wh-)feature-checking may potentially take place outside of this strict checking domain (though still quite locally in comparison with other languages).

(certain dialects of Arabic are reported not to allow multiple wh-questions either). Here it can be argued that feature-checking and the licensing of wh-phrases is restricted to occurring *only* within SpecCP, and not even in SpecCP-adjoined positions (hence only a *single* wh-phrase may ever be licensed). Thus the multiple fronting of wh-phrases in Eastern European languages does not constitute evidence against the proposal that wh-movement to a +Q Comp may take place in order to trigger this head as a licensor for wh-elements, but can be interpreted as being the result of stricter locality conditions on wh-licensing in these languages, just as, for example, there is variation among languages as to whether a wh-phrase may licitly occur in situ in other more recognizable islands for locality like relative clauses, wh-islands etc.

If multiple wh-fronting essentially takes place in order to comply with locality conditions on wh-licensing, one might then ask whether a +Q Comp in such languages should be taken to be ambiguous and in need of triggering as +wh. In Czech and Serbo-Croat the answer would seem to be yes - although secondary occurrences of wh-phrases may appear adjoined to IP, indicating that they may be licensed in this position, a single wh-phrase must appear within SpecCP; this is naturally explained if the occurrence of a wh-element in SpecCP is necessary in order to trigger it as a licensor for all wh-phrases. The raising-for-disambiguation/triggering hypothesis might also seem appropriate for another multiple wh-fronting language - Hungarian; in Hungarian it is well-documented (see Horvath 1986, Brody 1990) that the pre-verbal position to which wh-phrases raise also hosts a variety of other pre-posed focus types, indicating that it is ambiguous in the same sense that the English C/Pol/F is (and hence in need of triggering via wh-movement).

The suggestion made here that the checking domain of a certain type of head may be subject to variation across languages, or perhaps that certain locality constraints have for effect that the checking domain of a head is reduced and (perhaps severely) restricted in one language but not another may seem to go against the endeavour to see all checking relations as being 'strictly' local, yet nothing *in principal* excludes feature-checking from taking place within larger domains than those proposed in Chomsky 1993. Other dependencies in which one element requires licensing by another are not restricted to occurring within the locality of the checking-domain as defined in

Chomsky 1993, e.g. the licensing of anaphors, so there must exist other 'non-local' relations within language. Feature-checking as outlined in Chomsky 1993 may also occur in either of two position-types - in a Spec-head configuration or where a head is adjoined to another head, so a certain difference of locality is admitted even here (by necessity), a head-adjoined position arguably being 'more local' to the checking head than its Spec position. Furthermore it might seem somewhat odd that if feature-checking may generally occur within the checking-domain of a head, checking is taken not to be possible in the complement-of-head position (complement positions being within the checking domain of a head as defined in Chomsky 1993). Finally, suggesting that all grammatical relations must essentially be of a highly local nature and confined to Spec-head, head-complement structures, Chomsky assumes that other 'non-local' relations e.g. those in antecedent-government chains may be captured in some way that does not admit of long-distance relations. In the three years since the advent of the Minimalist Program no clear solution seems to have been found for this problem. Ultimately the suggestion that feature-checking takes place universally within Spec-head or head-adjoined positions reduces to a desire for conceptual simplicity and the general observation that feature-agreement does seem to surface in Spec-head configurations. However, there is no a priori reason why feature-checking need always occur in these ways. The data from a variety of languages relating to the potential distribution of wh-phrases taken together with argumentation from within the Minimalist Program itself do seem to indicate that the strong position put forward in Chomsky 1993 is in need of certain modification, and that feature-checking must be somehow possible within wider domains than originally suggested.

4.1 Focus

We now turn to consider *focus* and suggest that if focused DPs carry a focus-feature in need of checking/licensing in F/Pol/C (as in fact proposed in Chomsky 1993) then conclusions similar to those drawn with regard to wh-licensing, triggering and the locality of feature-checking can (and perhaps must) be arrived at.

Again, Chomsky 1993 suggests that all syntactic movement must be triggered by a requirement that morphological features on the element undergoing movement be checked. With focus movement it must therefore be assumed that the XP is base-generated with a focus-feature which needs to be checked in C/F/Pol:

(57) THAT BOOK I never read.

Because raising here is overt it must also be assumed that checking of focus-features must occur prior to Spell-Out (just as with wh-features). Alongside single focus sentences we also find sentences containing multiple focused DPs:

(58) THAT BOOK I gave to JOHN.

If the DP JOHN also carries focus-features and focus-features must be checked prior to Spell-Out, then just as with multiple wh-questions we are led to the conclusion that this second focused DP must be feature-checked in its in situ position and not in a Spec-head configuration with C/Pol/F. Again if such 'long-distance' checking is possible we are led to ask why the first focused DP raises to SpecFP/PolP/CP and once more it can be concluded that this is to disambiguate F/Pol/C as a licensor for all Focused elements in its domain. It *may* also be argued that in multiple focus sentences such as 58 a type of 'paired interpretation' arises similar to absorption in multiple wh-questions - in 58 it seems to be heavily implied that other books were given to other people, and one might naturally expect a follow-on to 58 something like: 'THIS BOOK I gave to MARY.'; if pair-list interpretations here result from a similar kind of association with a licensing functional head as with multiple wh-questions, this may be taken as indication that both foci are licensed relative to the same F/Pol/C. It can further be noted that the occurrence of a focused DP in a wh-question is quite unnatural (unless as a rhetorical question):

(59) ??Who saw JURASSIC PARK?

Such restrictions have also been observed for Italian (i.e. that focused and wh-

phrases may not co-occur (see Cinque 1990)). This may seem rather unexpected given that single in situ focused DPs are possible in English (to which we return shortly). However, if both wh and focus elements require licensing by a (single) C/Pol/F which may be disambiguated and triggered as *either* +wh *or* +(pure) focus etc, then it is clear that in 59 one of the two elements will not be successfully licensed (presumably the focused DP) - a single C/Pol/F cannot simultaneously be triggered in two ways (this would then also seem to constitute evidence for the assumption that not only raised but also in situ focused DPs are licensed by F/Pol/C and therefore that in situ and raised focus are not unrelated and distinct phenomena).

Against the objection that there are well-formed occurrences of a single focused DP in situ (and hence that such in situ occurrences do not carry a focus-feature in need of checking), we suggest that in English a null focus equivalent to the wh question particles found in other languages such as Japanese, Chinese etc may optionally occur in the initial numeration of a focus sentence:

(60) ⊕ Mary said that JOHN did it.

Such a null particle like question particles in wh in situ languages will disambiguate and trigger C/Pol/F as +focus, and so licence the occurrence of the focused DP in situ, hence no raising need take place. Because no movement to trigger C/F/Pol is required, the focused DP may occur in islands just as secondary wh-phrases may in multiple wh-questions[19].

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[19] Some occurrences of in situ focus appear in fact to be a little odd, especially when not embedded in a context:

(i) ?Mary saw JOHN.

If such examples are acceptable the listener must build a context and take the focused DP as contrastive with some other focused DP present in the discourse, e.g:

(ii) When we went to Newport it was BILL I saw. Mary saw JOHN.

Perhaps in these cases a null focus particle is licensed in F/Pol/C by the presence of the preceding discourse and the focused DP (BILL), much in the way that Huang 1989 suggests a 'zero-topic' operator is licensed in discourse by a predominant DP, this zero-topic then licensing occurrences of object *pro* in Chinese. If instances of in situ focus such as 60 above are better, where the focused DP occurs embedded under an attitudinal verb or verb of

Multiple focus sentences also seem to show Superiority effects similar to those in multiple wh-questions:

(61) PAUL hid THE BOOK.

(62) ?THE BOOK$_i$ PAUL hid t_i.

This again is indication that in situ focused DPs are licensed by the same F/C/Pol that fronted focus-phrases are - if in situ focus were to be independent of focus-movement and licensed in an essentially different way, we would not expect to find any such interaction with moved/fronted focus-phrases. Superiority effects may well be explained in terms of the notion of shortest move as Chomsky and Reinhart 1994 suggest (see below), basically that overt movement to a C/Pol/F must take place in the most economical (here shortest) way, and so from the subject rather than object position. This implies that movement of the in situ focused subject in 62 *must* be considered as a potential option to movement of the object, hence that in situ focusing is not independent of focusing of other elements via movement to F/Pol/C.

So, if all focused elements must be licensed by a single F/Pol/C and overt raising is observed to take place alongside licit occurrences of in situ focused phrases, it has to be concluded that the focus-features on the latter are licensed/checked in situ and not necessarily in SpecCP/FP/PolP. As with wh-licensing we may also notice certain parallels relating to the locality of the licensing domain - in English an in situ focused DP may occur in all kinds of islands just as in situ wh-phrases may, whereas in other languages the licensing of focus may be more restricted - in Serbo-Croat we find instances of multiply-fronted focus-phrases[20] just as all wh-phrases are seen to undergo

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reporting, perhaps this predicate is responsible for licensing the null focus particle/operator.

[20] The occurrence of multiply-fronted focus-phrases in languages such as Serbo-Croat also indicates that focus is a feature which is present and in need of checking on *all* DPs which carry it, and that this must uniformly be checked on all focused-DPs by Spell-Out (also that focus-raising cannot be argued to take place solely in order to check any strong focus-features on C/F, if this were to be the case then one would not find any multiple focus-raising). If one then (reasonably) concludes that focus is cross-linguistically a feature which always requires checking on (all the) XPs which carry it, despite being +interpretable, one is led to the conclusion that in situ focused DPs such as THE BOOK in 61 are checked non-locally and in

obligatory raising for reasons of locality on their licensing, and in Italian where licensing of wh-phrases is restricted to occurring only in SpecCP (not even adjoined to SpecCP) so that only a single wh-phrase may occur per +Q C, it is found that multiple focus sentences are also not permitted.

4.2 D-linked wh in Polish, English wh in situ

The suggestion that movement of wh-phrases in languages like English, Polish etc takes place in order to trigger and disambiguate C/Pol/F may seem to be questioned by the existence of certain stylistic question forms in these languages. It has been noted that in Polish it may be possible for D-linked wh-phrases to remain in situ (see Pesetsky 1987)[21]:

(63) W koncu, kto robi co?
finally who does what
Finally who does what?

Also in British English (at least) in certain stylistic speech, instances of wh-questions with no wh-raising are attested (non-echo, also non-D-linked here):

(64) So having arrived there, you did what exactly?

If this is the case, one must ask how these wh-phrases may be licensed, as it has been assumed that a C^0 needs to be triggered in order to licence wh-elements in these languages. We suggest that similar to the case of single in

situ - overt raising of the focused DP PAUL indicates that C^0/F^0 must be triggered as a licensor for focused elements by Spell-Out, therefore focus-feature-checking on all DPs must be assumed to be necessary by this point; as THE BOOK does not however occur in Spec of C/F at Spell-Out, its checking must be non-local. The fact that focused DPs may freely occur in extraction-islands together with Binding Theoretic evidence similar to that constructed with in situ wh-phrases also shows that in situ focused DPs can at no derivational point be taken to occur raised in SpecCP/FP, and hence that their checking must be non-local, i.e. in short the same conclusions drawn from wh-data can also be made on the basis of the patterning of focus-phrases.

[21] This is not true for all of the East European multi-wh-raising languages - informants indicate that wh-phrases occurring in situ in Serbo-Croat can only have an echo, not a D-linked, reading.

situ focus in English outlined above, under certain situations a null equivalent to the +wh question particle in languages like Japanese/Chinese is licensed here. Such a null particle, licensed perhaps by factors of style/tone, will perform the same functions as wh-raising, triggering/disambiguating C^{o} as a licensor for wh-elements so that the relevant wh-phrases may remain in situ and need not undergo any raising. Given that the wh-phrase in the British English case (and possibly also in full wh-in-situ questions in French) is not necessarily D-linked, it cannot be argued that such wh-phrases escape a raising requirement because they are somehow 'non-quantificational' (as suggested in Cheng 1991); rather it would seem to be a purely formal licensing requirement which is fulfilled and provided in some other way in these instances.

One might then wonder why wh-raising is always required in embedded questions in English and French:

(65) *John wondered Mary saw who.

It might be expected that question-embedding predicates such as wonder/ask would select and licence just such a null question particle in the C^{0} of their clausal complement, so that wh-raising would not be necessary. However, note that although these verbs do indeed select questions, there still remains the ambiguity as to whether such interrogative clauses are wh- or yes/no questions, thus the C/Pol/F is still ambiguous. Wh-raising to SpecCP/PolP/FP always takes place to disambiguate a C/Pol/F, even if it does seem to be unambiguously +Q:

(66) *Did John see who?

Therefore raising of a wh-phrase will still be necessary, even when a +Q Comp is selected by a higher verb. However, we might note that the C/Pol/F of the clause selected by a verb such as wonder has been disambiguated to the extent that it is +interrogative and the C/Pol/F is +Q; therefore no subject-auxiliary inversion takes place - selecting a +Q C^{0}, this satisfies/automatically checks the X^{o} +interrogative features on C^{0} itself. Where no such (partial) disambiguation and selection of a type of C^{0} occurs, as in matrix questions, the +interrogative

X° features on C^{0} need to be checked via raising of a (verbal) head to C^{0}; along with Aoun and Li 1993 (and others) it may be assumed that in these cases the +interrogative X° features are base-generated in Infl and raise with the verb to Comp. Substantiating this general approach is the case of *So-/Neg-*inversion, as in:

(67) So tired was John that he fell asleep in class.
(68) Never had John seen such a sight before.
(69) Mary said that so tired was John, he fell asleep in class.
(70) Mary said that never had John seen such a sight.

The verb say does not select any type of +focus F/Pol, so that auxiliary-raising is always required to take place whether in matrix or embedded contexts.

Generally then, certain apparent counter-examples to the suggestion that wh-raising takes place in order to trigger a C/Pol/F can be explained if a null wh question particle is optionally licensed to appear in the numeration under certain special circumstances.

4.3 Wh-island violations; lack of LF movement from A'-positions; Superiority

Three other 'wh-related' cases need to be re-considered now given assumptions and claims which have been made regarding wh-licensing and the motivations for wh-raising. The first is that of wh-island 'violations', where a wh-phrase moves from within an embedded question to a +Q C in a higher clause, e.g:

(71) ?Which books did he want to know where to put?

If wh-movement ultimately takes place in order that a wh-phrase may be licensed, and is not triggered by any hypothetical requirements of a C^{0} itself,[22]

[22] Although we have not committed ourselves either to maintaining (or abandoning) the Principle of Greed as a general derivational constraint (the proposals made here would technically be compatible with either position), we have been assuming that wh-raising always takes place to satisfy licensing requirements of wh-phrases themselves - either to disambiguate and trigger a +Q Comp as a licensor for all wh-elements in its domain, or to bring a wh-phrase

one might predict that there should be no wh-island violation cases such as 71. The wh-phrase *could* be successfully licensed by the lower +wh+Q Comp (triggered as +wh by raising of where) and so could stay in situ in the lower CP. Sentences such as 71 can however be accounted for if the need for a particular interpretation of a wh-phrase may necessitate movement - if the wh-phrase which books remains in the embedded CP it will only be interpreted as indirectly questioned, its scope being delimited to the lower CP - if the matrix C^0 is not triggered as a +wh-licensor by raising of a wh-phrase then it will not be able to licence a direct-question interpretation onto which books. Therefore if such an interpretation is necessary, the wh-phrase must raise; it can then be assumed that an element such as wh does not *necessarily* need to be licensed/feature-checked in the first position where such licensing/checking becomes available, but may raise to a potential checking-position if this movement is driven by other requirements. One might also note that strong features must be checked *by* Spell-Out in order that they will not cause the derivation to crash at PF; there is no necessity that wh-features on wh-phrases be checked as early as possible (i.e. here by the closest available licensing +wh+Q Comp), but simply by the feed-off to PF.[23]

71 above contrasts with examples like 72 below where the in situ wh-phrase may have scope at the higher +Q Comp without movement:

(72) Who remembers where we bought what?

In 72 the higher C^0 *is* triggered as +wh and so may licence the lowest wh-phrase what, this resulting in a direct question interpretation. In English (but not all languages) a wh-element does not need to be bound by the most local potential licensor, i.e. no relativized minimality effects constrain wh-licensing

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into the wh-licensing domain of a +Q C^0. If 'classic' wh-movement in languages like English is then primarily triggered by the need to activate Comp as a licensor of a particular type, it may seem unnecessary and perhaps redundant to suggest that this raising is also triggered by a second requirement - to check wh-features on the +Q C^0. Consequently it may not be possible to argue that in wh-island cases such as 71 the wh-phrase which books raises to the matrix Comp just to satisfy wh-feature-checking requirements of this Comp.

[23] Possibly one could formally implement the scope requirements of wh-phrases by the inclusion of a +direct (question) feature addition to the wh-features of a wh-element.

here. 72 is in fact fully acceptable (with what interpreted as being directly-questioned) in contrast to 71 or 73 below, because no (LF) movement of the in situ wh-phrase is required to take place, the higher C^0 having been triggered by who:

(73) ??What do you remember where we bought t?

Sentences like 72 do raise again another (old) question concerning the scope of wh-phrases, namely why must a wh-phrase obligatorily take scope in the +Q Comp to which it has been moved, i.e. why can where in 72 not have scope at the matrix +Q Comp? It could be argued that though movement of where to the lower +Q Comp in 72 will trigger it as +wh, if such a +wh Comp simply has a requirement that it must bind *some* wh-phrase, this requirement could be fulfilled by the lower wh-phrase what. Where could then take scope at the higher +Q Comp, which has been triggered as a licensor for wh-elements by raising of who. Such a interpretation would be along lines of 74:

(74) for which x, x a place, and for which y, y a person, does y remember what z, z a thing we bought in x ?

Original formulations of this problem in fact asked why LF wh-movement (to a higher +Q Comp) may not be initiated from A'-positions in general in languages like English, thus why sentences such as 75 are bad:

(75) *Who thinks what Mary bought?
intended interpretation: for which x, x a person and for what y, y a thing, x thinks Mary bought y ?

Such cases can actually be straightforwardly accounted for under assumptions made here - if wh-movement takes place only in order to trigger a C/Pol/F as +wh, and only a single wh-element need appear in SpecCP to effect this triggering, then there is no motivation for the second wh-phrase in 75 to move *at all*. By claim/assumption it does not move at LF, and so the partial movement in 75 to an intermediate position is justified in no way, and

therefore should not take place (by Economy).

The interpretation in 74 for cases such as 72 can also be quite easily ruled out if one makes the assumption that a Principle of Greed does in fact constrain all operations of (wh-)movement. If wh-movement to a (potential) +Q C takes place in order that Comp is triggered as a licensor for wh-phrases, then such a +Q C *must* end up licensing and binding the wh-element which has been raised into its Spec - according to Chomsky's 1993 original formulation of Greed, all movement takes place for the direct benefit of the element which undergoes movement, therefore a wh-phrase may not raise to trigger a C as +wh unless the wh-phrase itself benefits (directly) from this movement and is licensed by the +wh C. In 72 where may not raise to the intermediate Comp unless it becomes licensed by this as a result; given that where could be licensed by the matrix +wh C in situ without raising, it may not raise *just* so that another element, the in situ what, becomes licensed.[24]

Finally we need to check to see whether the proposed account may handle cases of Superiority. An attractive purely syntactic account of Superiority phenomena may be based on considerations of Shortest Move, as proposed by Chomsky 1993 and Reinhart 1994 (drawing also on data observed in Lasnik and Saito 1992). The relevant examples are given below in 76 - 78:

(76) I know who t bought what.

(77) */? I know what who bought t.

(78) Who knows what who bought t?

a) */?For which x, x knows for which , <z, y>, y bought z

b) For which <x, y>, x knows what y bought

The basic suggestion is that movement of the subject who to the Comp of the lower embedded question CP (in 76) is a shorter and hence more economical

[24] Noting that Chomsky 1995 perhaps may not be able to rule out the illicit interpretation of 72. If wh-movement takes place *only* to check wh-operator features on a +Q C^0 prior to Spell-Out and not for requirements of the wh-phrase itself, there seems to be no reason why the raised wh-phrase where should have to be bound by the particular intermediate +Q Comp it has moved to. If a +wh+Q Comp must simply bind *some* wh-phrase *at LF* in order to satisfy the Principle of Full Interpretation (and all wh-phrases must similarly be bound by some +wh+Q Comp at LF), it should be possible for the intermediate +Q Comp to bind (just) the in situ what and for where to be bound by the higher +Q C^0.

move than movement of the object (as in 75). Therefore movement of a wh-subject rather than an object wh-phrase in multiple wh-questions should always take place when possible, by Economy. The interesting case noted by Lasnik and Saito is that in 78 - this example *is* acceptable when the lower subject who is interpreted as having scope at the matrix Comp, but is poor if interpreted at the lower +Q Comp. Following Reinhart 1994 it can be suggested that in the licit interpretation of 78 there is no more economical way in which the sentence could be formed, hence that although the lower CP structurally resembles the Superiority violation in 77, crucially Economy will not have been violated in (the good interpretation of) 78. If the subject who moves to the lower Comp it will trigger the Comp as a licensor for wh-elements and will necessarily be bound by this Comp as detailed above; therefore no interpretation of the lower who as being directly questioned will arise. If movement to the matrix Comp by the higher subject who triggers this Comp as +wh, thus as a licensor for all wh-elements in its domain, there is no motivation for the lower who to move anywhere, it will be licensed in situ and by economy should not undergo any raising. Therefore in order that what in the lower CP be licensed as indirectly questioned it *must* raise to trigger the lower Comp. Examples such as 78 thus can receive neat explanation under the assumption that wh-phrases in situ at PF do not undergo further raising post-Spell-Out but are licensed in their in situ positions, rather than attempting to invoke some ECP account based on LF wh-movement and the configurations it would give rise to.[25,26]

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[25] That is, a standard ECP account does not allow for the existence of the licit interpretation in 76 - there two subject wh-phrases would occur raised in the same Comp at LF (the matrix Comp) and it would be predicted that either one or the other would not be able to c-command and antecedent-govern its trace.

[26] If wh-feature-checking requirements relate solely to a +Q C^0 and not to wh-phrases themselves, then it is hard to see how Chomsky 1995 could allow for the licit interpretation of 78. The structurally closest wh-phrase to a +Q Comp (hence the lower clause who rather than what in 78) should be attracted to this Comp in *all* cases, to satisfy simple unselective requirements of the +Q C^0 that its wh-features be checked by some wh-phrase (i.e. it should not be possible for a +Q Comp to select attraction of one wh-phrase rather than another). If however raising relates directly to licensing of wh-phrase themselves, then it is plausible that a wh-phrase would not raise to a +Q Comp which would not licence its particular intended interpretation.

5.0 Japanese and wh-scrambling

Having discussed how the proposed account of wh-licensing and wh-movement applies to languages such as English, Iraqi Arabic, Romanian etc, and having considered certain general questions which the account would seem to need to address if to be generally successful and feasible, we now turn to look at wh-questions in Japanese.

In Japanese, unlike English, no overt wh-movement occurs to Comp; one might then initially presume that +Q Comps in Japanese do not require this kind of triggering as a licensor for wh-phrases, and that instead of wh-movement, the presence of the question particle *ka* automatically triggers Comp as a wh-licensor. However, it is also possible that wh-features in Japanese might be weak, and that raising of a wh-element to Comp (for triggering of C^0) might take place covertly *at LF*. Data presented by Watanabe 1991 seem to indicate that *some* type of wh-movement does indeed take place in Japanese:

(79) ?John-wa [Mary-ga *nani-o* katta ka-dooka] Tom-ni tazuneta no?
John-Top Mary-Nom what-Acc bough whether Tom-Dat asked Q
What did John ask whether Mary bought?

(80) John-wa [Mary-ga *nani-o* katta ka-dooka] *dare-ni* tazuneta no?
John-Top Mary-Nom what-Acc bought whether whom-Dat asked Q
Who did John ask whether Mary bought what?

Watanabe claims that the contrast between 79 and 80 above suggests that some wh-element must undergo movement to a +Q Comp. In 79 there is only a single wh-phrase present and this occurs in a wh-'whether' island. Movement from this position to the matrix +Q Comp will therefore violate Subjacency (hence 79 has the partially degraded status typical of weak Subjacency violations). In 80 there is an additional wh-phrase present in the matrix; hypothetical movement between this indirect object position and the +Q C will not violate any locality constraints and 80 is in fact found to be perfectly acceptable. Writing prior to the advent of the Minimalist Program, Watanabe

actually suggests that movement of some wh-element must take place *prior to S-structure* in order to fulfil a condition that all (+wh) +Q Comps contain a wh-element in their Spec by this point (in Japanese); as nothing is visibly observed to undergo movement to Comp prior to S-structure, Watanabe hypothesizes that a phonetically-null determiner-like subpart of a wh-phrase separates off from the rest of the (overtly realized) wh-phrase and moves to Comp. In line with ideas of the time, Watanabe argues that all pre-S-structure movement is constrained by Subjacency, while that occurring at LF is not. Assuming that all wh-phrases need occur in a +Q Comp by LF for reasons of scope/quantification, Watanabe suggests that movement of the *second* wh-phrase (or its null wh-determiner) in the wh-island in 80 occurs only at LF and hence does not violate Subjacency. The crucial difference between 79 and 80 would then be that wh-movement is forced to take place from within an island in 79 at a derivational point where locality constraints on movement still apply (in order to fulfil the Wh-Criterion as a condition applying to S-structure), but that in 80 this obligatory pre-S-structure movement may be initiated from a position which is zero-subjacent to Comp, hence no violation occurs.

These facts must necessarily receive a somewhat different interpretation within a Minimalist framework, where it must be assumed that Subjacency is a constraint on *all* applications of movement occurring during the derivation, whether prior to or after Spell-Out. There are various ways in which the contrast observed in 79/80 might be accounted for assuming the basic set of proposals put forward in sections 1-3 above. Such examples do seem to indicate that some type of wh-movement to Comp must be involved, but it is not obvious exactly when in the derivation this need occur, nor what it is that actually undergoes movement. Given the dual assumptions made here that Subjacency constrains applications of movement throughout the derivation and that only a single wh-element need ever raise to Comp in order to trigger it as a licensor for wh-phrases, it could be that movement of a single (full) wh-phrase takes place at LF; this movement would suffice to trigger the +Q C^0 and will always violate Subjacency if initiated from within an island configuration, as in 79, no matter what derivational point the movement takes place at. In 80 the wh-phrase in the matrix could raise at LF (without violating Subjacency) triggering the C^o as a licensor and the C^o would then in turn

licence both this wh-phrase and the wh-phrase in the wh-*whether*-island, wh-*licensing* being subject to locality constraints different from those affecting *movement*[27]. However there are also two other possibilities; first, in line with Watanabe, it could be that only a phonetically-null subpart of the wh-phrase moves (from a single wh-phrase) *prior* to Spell-Out, all wh-phrases being in need of licensing/feature-checking before the feed-off to PF, or alternatively that such a null wh-determiner element moves (from a single wh-phrase) after Spell-Out, licensing/feature-checking of wh-phrases being only necessary before LF. It is thus not possible to decide the issue solely on the basis of the data presented in Watanabe. However, there is certain other data relating to scrambling of wh-phrases discussed in Takahashi 1993 which will allow one to conclude what type of wh-movement occurs in Japanese and when this is forced to take place. Before we consider this, it is necessary to reflect again on the *motivation* for this hypothetical wh-movement in Japanese.

In the account put forward here we have suggested that wh-movement occurs to trigger a Comp as a licensor for wh-phrases, checking the wh-features they carry, and that triggering of such a Comp seems necessary when C^0 is essentially 'ambiguous'. In Japanese if a *ka* question particle appears in Comp, it might be claimed that this in itself performs a disambiguating function, so that the clause can only be interpreted as a question ('typed' in Cheng's sense); one consequently might expect that wh-movement should not be necessary. However, although a *ka* particle does indeed indicate that the CP is to be interpreted as +interrogative, such clauses are still crucially ambiguous between being wh- or yes/no questions, so that the C^0 will actually not have been *specifically* triggered as a *wh*-licensor - *ka* is a general question particle and not use *only* with wh-questions. It has been argued that in English apparent disambiguation of C/F/Pol as +Q via raising of an auxiliary verb with interrogative features is not sufficient to licence wh-phrases, vis: '*Did you see what?' I-to-C movement of an Infl carrying a +Q-feature *may* perhaps determine C^0 as +Q, but raising of a single wh-phrase is still necessary

[27] Note: it cannot be suggested that the wh-phrase in the wh-*whether*-island in 79 simply violates non-movement locality constraints on wh-licensing, hence that no movement at all takes place in 79. If this were so then licensing of the lower wh-phrase in 80 should also violate such locality constraints, yet 80 is perfectly acceptable.

to trigger C° as a *+wh+Q* licensor. Thus in Japanese it can justifiably be argued that Comp is still ambiguous even where a *ka* particle appears, and some kind of wh-movement is required to trigger the +Q C as +wh.

This approach appears to receive support from a consideration of (Mandarin) Chinese (MC), another wh-in-situ languages with question particles. In MC question particles are *not* ambiguous in the way they are in Japanese - *ma* is exclusively for use with yes/no questions, while *ne* occurs only with wh-questions. If a +Q Comp may be *fully* disambiguated by such a question particle alone (whether null or overt) one might expect that wh-movement should not be necessary to trigger C^0 as *wh*, and the crucial contrasts observed to exist in Japanese (79/80) are in fact significantly absent from directly parallel examples in MC; 81 shows a wh-phrase freely occurring in a *whether*-wh-island and 82 in a 'full'-wh-island, both interpreted with scope at the matrix-clause +Q Comp (hence no movement which would violate Subjacency can be taken to occur here, unlike in Japanese):

(81) Ni xiang-zhidao [shei xi-bu-xihuan ni]
you want-to-know who like-not-like you
'Who is the person x, such that you wonder whether x likes you or not?
(Huang 1982)

(82) Ni xiang-zhidao [shei mai-le shenme] ne?
you want to know who buy-Asp what Q
Who is the person x such that you wonder what x bought?
What is the y such that you wonder who bought y?

Hypothetical movement to Comp in Japanese may therefore be ascribed the same motivation it is given in English, occurring to disambiguate Comp as a licensor for all wh-phrases in a certain domain, and no parallel wh-movement would appear to be necessary in MC due to the existence of unambiguous wh- and yes/no question particles.[28]

[28] This does not exclude the possibility that a language *may* have unambiguous wh question particles yet still show certain *general* locality effects in the distributional patterning of its wh-phrases (in situ). Restrictions on the occurrence of wh elements in situ may not

The question remains then as to what actually undergoes movement to C in Japanese and at what derivational point this occurs. In work carried out independent of and contemporaneous to that in Watanabe, Takahashi 1993 argues that certain instances of what appear to be simple scrambling of wh-phrases in Japanese are actually cases of English-type full wh-movement. When worked through and interpreted within Minimalist assumptions and proposals made here, the somewhat complicated and challenging data lead one to conclude that in Japanese *some* type of wh-movement to Comp does in fact have to take place *prior* to Spell-Out.

Example 83 below shows a standard wh-question with the wh-phrase occurring in situ in its base-generated position:

(83) John-wa [Mary-ga nani-o tabeta ka] siritagatteiru no?
John-Top Mary-Nom what-Acc ate Q want-to-know Q
either: Does John want to know what M. ate?
or: What does J. want to know whether M. ate?

As the glosses show, the scope of the wh-phrase is ambiguous[29] - it may receive interpretation as being either directly or indirectly questioned; if the former interpretation is selected, then the lower clause is taken as an embedded yes/no 'whether' question, if the latter, then the matrix is a yes/no question. In 84 the wh-phrase appears 'scrambled'/moved to an A'-position in the matrix clause, SpecCP according to Takahashi, and only one interpretation is possible, that

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necessarily result from movement having to take place to C^0 for triggering purposes, but be due to locality effects on the licensing relation between a (triggered) C^0 and wh-phrases in situ. In Iraqi Arabic it has been noted that wh-phrases may not occur in wh-islands; when additional wh-phrases occur zero-subjacent to a higher +Q Comp outside the island this does nothing to improve the status of wh-phrases within the wh-island, that is, the improvement in acceptability noted in Watanabe's Japanese examples is not present in Iraqi Arabic. This indicates that when a (single) wh-phrase occurs in an island in Iraqi Arabic it is not any movement to Comp for triggering of C^0 which causes a violation, but rather licensing of the wh-phrase which is blocked (one can also remember that wh-phrases in situ are ill-formed in certain other constituents that are not islands for any movement). What one might not expect to find is contrasts of the *particular sort* seen in 79/80 occurring in a language with fully unambiguous wh question particles (i.e. an asymmetry in the locality conditions affecting primary and secondary wh-elements).

[29] In the dialect under consideration here at least (not all dialects do allow for a wh-phrase in such wh-islands to take scope at a higher +Q Comp, though high scope out of 'whether'/ka-dooka-wh-islands, as in 80, appears to be much more free).

of a direct wh-question:

(84) Nani-o John-wa [Mary-ga t tabeta ka] siritagatteiru no?
what-Acc John-Top Mary-Nom ate Q want-to-know Q
What does John want to know whether Mary ate?

The critical question here is why an indirect wh-question interpretation is no longer possible after such movement. Example 85 below shows that when the Comp of the clause to which the wh-phrase is moved is *not* +Q, scrambled wh-phrases may indeed be reconstructed for binding by a lower +Q Comp:

(85) Nani-o John-ga [Mary-ga t katta ka] sitteiru
what-Acc John-Nom Mary-Nom bought want-to-know
John wants to know what Mary bought.

'Scrambling' of the wh-phrase in 84 then obviously does seem to give rise to certain effects which significantly differentiate it from the scrambling seen in 85. 84 appears to mirror instances of overt wh-movement in English, e.g:

(86) Which book$_i$ do you want to know who$_k$ to give t_i to t_k?

In 86 the wh-phrase which book moved to the matrix Comp can only have scope at this position and no interpretation with which book reconstructed and bound by the lower +wh+Q Comp is possible, i.e. giving an interpretation as in 87 below:

(87) 'Do you want to know who to give which book to?'

Scrambling of the wh-phrase in Japanese 85 thus seems to bear a strong resemblance to wh-movement in English in certain significant ways. The account we have proposed for English wh-movement is that raising of a wh-phrase to Comp is forced to take place in order to trigger C^0 as an appropriate licensor for checking of the wh-features carried by wh-phrases in its domain (and that such triggering must occur by Spell-out for reasons already detailed).

Initially it might seem that such an account cannot be correct for Japanese for the simple reason that overt wh-movement appears fully optional in this language, as example 83 shows. However, adapting ideas in Watanabe, we will argue that the above scrambling data brought to light by Takahashi can only be explained within current Minimalist frameworks if it is assumed that also in the fully in situ cases such as 83 there is covert pre-Spell-out movement to Comp of some phonetically uninterpreted wh-element. Before we expand on this proposal, the principal alternative to positing obligatory pre-Spell-out movement will be examined, that movement to Comp need only occur by LF.

First of all we would like to make clear that we are assuming that the data in Watanabe do indeed indicate that some type of wh-movement to Comp is taking place at some derivational point in Japanese, and that the contrasts observed with regard to locality constraints on movement indicate that only one member of any set of wh-phrases interpreted at a single +Q Comp is required to undergo movement to Comp (in order to trigger/disambiguate Comp). If this movement is required to take place only by LF, then example 84 above is problematic - pre-Spell-out scrambling/movement of the wh-phrase to a Q Comp seems to restrictively establish scope of the wh-phrase at this *particular* derivational point. Example 88 below also shows in a somewhat different way that the scope of a wh-phrase overtly moved to a +Q Comp is set by the position this wh-phrase occurs in at Spell-Out; in this example the wh-phrase may have scope only at the +Q Comp of the intermediate clause (to which it has been moved) and not at that of the *higher* matrix clause (although a wh-phrase in a non+Q Comp position normally may have scope at higher +Q Comps - see example 83):

(88) Kimi-wa [nani-o John-ga [Mary-ga t tabeta to] omotteiru ka] kikimashita ka?

you-Top what-Acc John-Nom Mary-Nom ate C be-thinking Q asked Q

only: Did you ask what John thought that Mary ate?

not: What did you ask whether John thought that Mary was eating?

Thus a wh-phrase overtly moved to a +Q Comp at Spell-Out may not take scope at any +Q Comp *higher* than the one in which it occurs at Spell-Out (88)

nor may it take scope at any *lower* +Q Comp (84). If wh-movement to Comp is required to take place only by LF, then scrambling of a wh-phrase to a +Q Comp prior to Spell-out should not have any significant effects precisely *at* Spell-Out. That is, in order to capture the observed patterning one would have to simply stipulate that a wh-phrase be obligatorily bound at LF by the +Q Comp it occurs in at Spell-Out (this also effectively recognising the S-structure of pre-Minimalist GB as a significant and real level of representation relative to which certain constraints may be stated)

Thus it seems that the data may not be accounted for (in any way consistent with recent Minimalist assumptions) if it is suggested that wh-movement in Japanese is only forced to take place by LF (i.e. that wh-features are weak and their checking should therefore by Economy only occur at LF). The whole paradigm may however be neatly captured if one argues that movement of *some* wh-element to Comp must occur prior to Spell-Out. Specifically we propose following and adapting suggestions made in Watanabe that a phonetically uninterpreted but morphologically discrete wh-determiner/specifier occurs with wh-phrases in Japanese, and that such an element *may* optionally detach itself and move independently from the rest of the wh-phrase. The *indefinite variable* nature of those lexical items functioning as wh-phrases in Japanese (and many other languages) has already been well-documented (see e.g. Nishigauchi 1986). Cheng 1991, discussing Japanese among other languages, suggests that a null wh-determiner-element will function to add wh-quantificational force to the essentially indefinite variable core of items such as *dare, nani* etc and give rise to their interpretation as 'who', 'what' in the same way that suffixation of a *-ka* morpheme to the same items will add existential force and result in their interpretation as 'someone/anyone', 'something/anything' (*dareka / nanika*). The further suggestion that such a (null) wh-determiner-like element may actually separate off from the indefinite NP core and move independently to a +Q Comp is also not without other independent justification. In Serbo-Croat such wh-determiner-movement can in fact be seen overtly; as examples 89 and 90 below show, a wh-determiner may either move to Comp on its own or pied-pipe the remainder of the wh-phrase with it:

(89) Ciju si (ti) vidio zenu?
whose did (you) see [t wife]?
Whose wife did you see?

(90) Ciju zenu si (ti) vidio?
whose wife did (you) see t?
Whose wife did you see?

Furthermore it is well-known that arguably determiner-like 'classifier-phrases' in Japanese may occur scrambled and separated from the NPs they quantify over, as e.g. in:

(91) san-nin-no-gakusei-ga kita
three-person-Gen-student-Nom came
Three students came.

(92) gakusei-ga kyoo san-nin kita
student-Nom yesterday three-person came
Three students came yesterday

(93) san-mai kodomo-ga sara-o watta
three-Cl. child-Nom plate-Acc broke
The child broke three plates.

We will therefore make the assumption that the wh-features of a wh-phrase in Japanese are carried on such a phonetically null element, and that this element may either move independently or together with the lexically overt core of the wh-phrase. We also suggest that, as with English, a +Q C in Japanese needs to be triggered for licensing/checking of wh-elements prior to Spell-Out and that triggering of C is effected via Spec-head agreement between C and an element bearing wh-features in its Spec - either the null wh-determiner or a full wh-phrase.

We can now see how such suggestions might account for the patterning observed in Takahashi 1993. In 83 movement of the null wh-determiner may

take place prior to Spell-Out either to the intermediate +Q Comp or directly to the matrix +Q Comp, triggering it as an appropriate wh-licensor and therefore being bound by it, just as in English a wh-phrase may raise to a higher +Q Comp to obtain scope at such a position (triggering the +Q C^0 and thus being bound by it) and is not forced to remain bound in situ by a lower (+wh)+Q C - vis the wh-island violation cases considered earlier, e.g: '?Which book do you want to know who to give t to t?'

In 84 the only possible interpretation, that of a direct wh-question, results from movement of the entire wh-phrase to the matrix +Q Comp together with the null wh-determiner. Why it is however not possible for the wh-phrase to take scope at the *lower* +Q Comp we return to shortly.

In 85 the wh-phrase and its null wh-determiner first moves to the lower Comp which is +Q. Because triggering and subsequent licensing/checking of wh-features must take place by Spell-Out, the wh-determiner triggers the +Q Comp, resulting in binding and licensing of the wh-phrase by this Comp. Further pure scrambling then takes the wh-phrase to a higher (-Q) Comp.[30] If feature-checking must take place during the *course* of a derivation, resulting in a checking and deletion of these features, then the wh-phrase need not remain in the specifier of the C^0 which has checked it *after* checking has taken place.[31] Whatever motivates and licences scrambling in Japanese will then allow the wh-phrase to move on further having successfully checked its wh-features (unlike English where scrambling, whatever it reduces to, is not licensed). Alternatively it might be the case that the wh-determiner carrying the wh-features necessary to trigger the +Q C remains in the specifier of this

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[30] We do not attempt to go into the challenging problem of what motivation there might be for scrambling here, a question which obviously is very poignant given Minimalist claims that movement is invariably driven by a need for feature-checking (see chapter 4 for further discussion).

[31] That feature-checking occurs at any point during a derivation (though necessarily before Spell-Out if features are strong, and always before LF) is clear from the fact that a verb inflected for agreement need not necessarily be in a checking configuration with the checking Agr head *at* Spell-out (if the agreement features are strong, as e.g. in French). A verb may first pass through Agr, checking and deleting its agreement-features at this point, and then move on higher to T^0 to check tense. At Spell-Out it will therefore actually only be in a checking configuration with T^0 and not $AgrS^0$ (the same is obviously true for subject DPs which need to check features in both SpecAgrS and SpecTP, the DP cannot be in a checking configuration with both *at* Spell-Out).

C, being separable from the lexically overt NP core of the wh-phrase, and the core raises/scrambles higher (unlike English where the pure wh element is not separable from the core, so the entire wh-phrase necessarily must remain in the +Q Comp it triggers).

Now we return to 84 again to consider the problem of why the wh-phrase may not be interpreted as having scope at the lower +Q Comp, i.e. if 85 indicates that a scrambled wh-phrase may have scope at a lower +Q Comp, then it might be expected that this should be possible in 84 too. It could be argued that the wh-phrase should be able to move first to the lower +Q Comp, trigger and be licensed by it and then scramble on further to the higher +Q Comp. The obvious intuition which seems in need of capturing is that a wh-phrase may not occur at Spell-Out in the Spec of a +Q Comp that it does not take scope at, or within proposals put forward here, that it does not trigger as +wh. In the impossible interpretation of *indirect* wh-question in 84, it is clear that a wh-phrase would occur (at Spell-Out) in the Spec of what would be a *yes/no* +Q Comp (the higher Comp). We suggest that this results in a conflicting and incompatible feature combination which the grammar does not tolerate. A +Q Comp may be either +wh+Q *or* yes/no+Q and must be disambiguated as such; *nani-o* in 84 is an element which *could* potentially perform a triggering and disambiguation function for the +Q Comp; it therefore, we suggest, cannot remain in this +Q Comp without disambiguating it as +wh. If the wh-element occurs here in the Spec of a yes/no +Q Comp there will not just be a lack of Spec-head agreement relating to the +wh/yes-no feature setting, but an actual conflict, the Spec being +wh+Q, its head yes/no+Q. Such a conflict of features is significantly absent in 85 - the matrix Comp to which the wh-phrase has been scrambled is *not* potentially ambiguous between a +wh and a yes/no Q setting[32] and movement of the wh-phrase into this Comp could *not* disambiguate it in any way. Therefore, although there is no feature agreement between the +wh Spec and the -Q C, there is also not the relevant conflict of features seen in 84 - in 85 the Comp will tolerate a +wh element in its Spec because such a +wh element does not have the potential to interact with it in any way.

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[32] I.e. it is not a +Q Comp at all, there being no question particle here.

Such 'feature conflicts' can be attested elsewhere, as e.g. in English an NP carrying a focus-topic feature may not occur in the Spec of a (yes/no) +Q Comp:

(94) *??THAT BOOK must you buy?

The only possibility allowed here is a Left Dislocation construction which does not involve the NP occurring in the Spec of the +Q Comp:

(95) That book, must you buy it?

We also find that whereas the first (SpecCP) position in German matrix clauses must normally be filled by some XP carrying either a topic or wh feature, when the matrix is a yes/no question no XP may occur in this first position:

(96) Hat er den Karl gesehen?
has he the Karl seen
Has he seen Karl?

(97) *Den Karl hat er gesehen?
the Karl has he seen

Again there would effectively be here the same problem as in 82 - the fronted focus-topic NP has the potential to trigger and disambiguate the Comp as +Focus; it may therefore not occur in the Spec of this C if the C is to be interpreted some other way, namely as yes/no+Q.

In sum then it is proposed that wh-movement of some type must take place by Spell-Out in Japanese, this in order to trigger an ambiguous +Q C as +wh so that the wh-features on wh-phrases may be checked by Spell-Out and the relevant wh-phrases be licensed. This essentially accounts for the fact that apparent instances of pure scrambling may not be 'undone' at LF - the licensing of wh-phrases must occur by Spell-Out and this necessarily involves movement of some wh-element to a +Q Comp; triggering of such a +Q Comp via movement into its Spec position will result in the wh-element being

licensed and obligatorily bound by that C - movement triggered by a need to check morphological features may only take place for the direct benefit of the item moved, hence a wh-element may not move to and trigger a +Q C if this does not result in the wh-element itself being licensed. The fact that wh-movement by Spell-Out does not *appear* obligatory is claimed to reduce to the proposal inspired by Watanabe that it is a phonetically null wh-determiner that carries the wh-features of wh-phrases in Japanese and this element *may* move independently from the indefinite quantificational core (just as seen overtly in Serbo-Croat and with movement of classifier-phrases in Japanese itself). The scrambling data from Takahashi show instances of the wh-determiner optionally pied-piping the entire wh-phrase to Comp, again an option realised overtly in Serbo-Croat (and with classifier-phrases in Japanese). Japanese thus essentially patterns exactly as English, the difference between the two languages being that in Japanese wh-features are carried on a null wh-determiner which may move independently to Comp, whereas, perhaps as Cheng suggests, in English the wh-features are morphologically incorporated into wh-phrases already in the lexicon and may therefore not extract from the DP and raise on their own to Comp. Finally it was suggested that in Chinese a +Q Comp is not ambiguous in the way that it is in Japanese and English, question particles in MC being clearly either +wh or yes/no, and that as a result of this no wh-raising for disambiguation of Comp is required, this consequently accounting for the lack of contrast in the distribution of primary and secondary wh-phrases in wh-islands that Watanabe has observed exist in Japanese.[33]

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[33] Although the analysis of wh-movement outlined here for Japanese draws its inspiration in part from Watanabe 1991, we are in fact forced to draw similar conclusions about the existence of a null wh-determiner element moving to Comp prior to Spell-Out for reasons quite different to those in Watanabe. Watanabe assumes that Subjacency constrains only pre-S-structure (pre-Spell-Out) applications of movement, and so to account for the contrasts noted has to posit movement of some null wh element. Secondary instances of wh-phrases/wh-determiners will raise at LF and this movement is not subject to Subjacency. In the Minimalist model assumed here, Subjacency is a uniform constraint applying throughout the derivation. Movement of (only) a single wh-element to Comp is required because this will minimally suffice to trigger Comp as a potential licensor for all wh-phrases in its domain; therefore other wh-phrases do not undergo raising at any point. Given the data presented in Watanabe and these assumptions one could actually still argue that the *entire* wh-phrase is what undergoes raising to Comp at LF (i.e. for triggering of C^0 at this level). It is crucially the scrambling data in Takahashi which force one first to conclude that checking of wh-features must take place *prior* to Spell-Out, and then observing there (often) to be no *visible* movement

6.0 Lack of long-distance DP and inflectional feature checking.

We now finally return to consider question (b) posed at the end of section 3.2 and repeated below:

(b) If 'long-distance' checking outside of the immediate specifier position of a checking head is possible in the case of wh-phrases, why might this not be possible for other elements requiring checking, e.g. DPs, inflected verbs? Also, is the potential 'non-local' nature of wh-feature-checking truly an isolated case, or are there other instances where it might be assumed that checking takes place non-locally?

If the data reviewed in sections two and three taken in conjunction with various theory-internal argumentation indicate that the checking of wh-features *may* potentially occur in configurations other than that of the 'strict-locality' of Spec-head or head-adjunction relations argued for in Chomsky 1993/95, one needs to ask why 'non-local' checking options do not seem (at least) to be taken-up and attested with other feature-checking dependencies. In this final section we will therefore attempt to speculate how the general account of (wh)movement and feature-checking offered earlier might generalise to other checking relations and allow for possible answers to question (b) above, suggesting that it *may* in fact be the case that there is 'long-distance' checking in other dependency-types.

6.1 Triggering of a licensing/checking head

Reflecting back on the underlying motivations attributed to movement and how this interacts with the licensing of any element, it has been argued that movement (of wh-phrases in particular) takes place for two fundamental reasons. In the case of wh-questions in English (and Japanese) it was proposed

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of any overt wh-phrase prior to Spell-Out, require the second step of assuming movement of some phonetically null wh-element, such an idea being supported both by language-internal phenomena (classifier-phrase movement) and evidence from other languages (wh-determiner raising in Serbo-Croat).

that a wh-phrase is forced to raise to Spec of C^0 in order to trigger C^0 as a licensor for the raised wh-phrase (and also potentially for any other wh-phrase in the licensing domain of the C^0). One then might suggest that raising of DP subjects/objects and inflected verbal elements also takes place for the same essential reasons - to activate a checking X^0-head as an appropriate licensor for certain elements, that without direct triggering via raising to the head, the latter will not be able to licence occurrences of the relevant features in need of checking.

While such a suggestion is not implausible, it might however not immediately appear to have the substantiating motivation that was seen to be present in *wh* account. There it was claimed that C^0 needed to be 'disambiguated' by such triggering, that C/Pol/F ranges over various mutually exclusive potential values (e.g. +wh+Q, yes/no+Q, *so*-focus etc) and that in order for it to be determined as a licensor for a certain type of element, its own particular value needed to be unambiguously established. In the case of T, AgrS, and AgrO it is perhaps not so clear that any such parallel ambiguity of the licensing head is present. However against this, it could be argued that AgrS and AgrO are indeed just *general* loci for checking of Agreement features, AgrS and AgrO not being inherently specified for one type of agreement rather than another (i.e. subject rather than object agreement), and that Agr may further range over a variety of possible combinations of person/number just as C/Pol/F does over (ultimately) various different focus types (hence they would be ambiguous in the relevant sense). To an extent it may depend upon whether it is possible to unambiguously base-generate features of a specific type (e.g. 3rd.sg) within an Agr head position in any language - with wh-questions certain languages do have an unambiguous *wh* question-particle which can be base-generated/inserted into C^0 and directly instantiate +wh(-features) (so that raising of a wh-phrase to Comp is not required), while in other languages wh-*movement* to Spec of C^0 is necessary to establish it as +wh. If a language does not allow for similar 'base-generated' disambiguation of Agr/T, it could then be predicted that V/DP raising should indeed have to take

place.[34]

This question of obvious ambiguity/non-ambiguity aside, it might be suggested that various X^0-checking-heads do in any case require certain direct and appropriate 'activation' before they may perform licensing/feature-checking functions (and that this necessitates raising). Recall also that in embedded questions in English where a +Q C^0 is selected by a higher verb (or where a *ka* wh-particle occurs in Japanese) it could be expected that this +Q specification of C^0 would alone suffice to licence wh-phrases and that no movement to Comp should need occur. However, we argued that a finer disambiguation than this is necessary for licensing of wh-phrases - namely as *+wh*+Q - so that this results in obligatory raising of a wh-phrase to Comp. In the case of apparently unambiguous inflectional heads it might be that their observed/argued unambiguity is also not fully sufficient to licence feature-checking, and that further direct activation of the head via movement is necessary.

If raising to a functional Agr/T head is then essentially *always* forced to take place for triggering purposes, this would clearly account for the 'strict' locality argued to constrain DP/verb feature-checking both prior to Spell-Out *and* at LF (as for example in the case of LF object-DP and verb-agreement/tense checking in English). However, one *could* also suggest that, as with *wh*-feature-checking, triggering of the checking head is actually only necessary in certain languages/for certain functional heads - precisely where *overt* verb/DP raising is observed to occur. In other languages/cases it might be suggested that Agr/T may be inherently activated as a licensor (perhaps via base-generation of the relevant features in Agr/T parallel to base-generation of a *wh*-question-particle) and that raising (for triggering) is consequently not required *at any level* of the derivation. In such a view, object-DP and verb-feature-checking (in English) would then in fact be instances of non-local, long-distance checking, between AgrO and the DP/verb in their VP-internal base-generated positions.

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[34] The existence of a purely functional tense/agreement bearing element such as *do* in English *do*-support (see also Hausa for a similar element) might seem to indicate that tense and agreement features may be directly generated in head positions in English and need not always be 'carried in' from VP by other verbal elements, hence that T^0 and Agr^0 are not inherently ambiguous in this language (and so might not require raising for disambiguation).

One can also note that if movement of a verb to AgrS^0 (for example) must occur in order to trigger it as an appropriate licensor, then as with the *wh*-licensing it is expected that only a *single* element of the appropriate type need raise in order to trigger and activate the head; *if* there were to be other elements of the same type in need of licensing, they should not need to undergo movement to the licensing head. In clauses involving more than just a single verbal element there is evidence that all verbal elements and not just a linearly-initial auxiliary agree with a subject DP, e.g:

(98) La porte n'a pas ete cassee.
the door has not been broken+fem.sg

The past participle cassee in the lowest VP exhibits overt feminine singular agreement with the subject. If it is assumed that such X°-agreement features are in need of checking by AgrS, the question arises as to how this takes place. Only the auxiliary a raises to AgrS (witness the position of negation) but all X°-inflectional features in French are taken to require checking *prior* to Spell-Out (hence verb-raising is overt). Supposing movement of the auxiliary into AgrS occurs to trigger this as a licensor for fem.sg AgrS features, then additional elements carrying these features should need not raise to AgrS and would be able to be licensed (non-locally) in situ by the activated Agr-head. In this way verb-feature checking/licensing would indeed closely seem to resemble the case of multiple wh questions in English/Japanese.

6.2 Locality constraints on licensing/feature-checking-relations

A second reason given to explain wh-movement, specifically in the case of languages such as Romanian, Serbo-Croat etc where *all* wh-phrases undergo raising (and Iraqi Arabic/Hindi, where all wh-phrases in embedded tensed CPs must raise to the tense domain of the +Q Comp), was that *locality restrictions* on the licensing/checking of wh-features may be subject to certain cross-linguistic variation (i.e. the relevant *(wh-)*licensing domain may differ across languages). In Romanian all wh-elements must appear in SpecCP (or adjoined to SpecCP) in order to be licensed/wh-feature-checked and it is therefore such

a (strict) locality condition on licensing which forces movement. One consequently might suggest that it is simply parallel strict locality conditions on the licensing of DP and verb-inflectional features which forces verb- and DP-raising to the checking head, much as Chomsky 1993 originally argues. Following on from this, it could then be assumed either that *all* cases of DP/verb-feature-checking (across all languages) are subject to occurring in the strict locality of Spec-head/head-adjoined configurations, this requiring raising either prior to Spell-Out or at LF, *or* it might perhaps be suggested that there is also certain variation here, that while *overt* raising *is* indeed a direct reflection of strict Spec-head/head-adjoined locality conditions (on verb/DP-feature-checking), other inflected verbs and DP arguments which do not undergo pre-Spell-Out raising may in fact remain in situ throughout a derivation and be feature-checked *non-locally* in these positions.

6.3 Relativized Minimality and Licensing

Just as there would appear to be variation across languages with regard to the locality conditions on licensing of a feature such as *wh*, so it may be the case that different licensing relations within a single language may be subject to certain locality variation. Whether and to what extent it is possible to reduce these locality restrictions to specific factors is a question for investigation; one possibility is that Relativized Minimality effects may play a role.

Data presented at the beginning of this chapter clearly indicate that there exist locality conditions on the licensing of wh-elements by a +Q Comp that are different from pure constraints on movement to such a position. It is possible and quite likely that in certain cases Relativized Minimality may constrain the licensing of feature-checking dependencies in a way different to that in which it affects movement. For example, it has been seen that in Iraqi Arabic the scope of a wh-phrase contained in a (-finite) wh-island may not be higher than the +wh+Q Comp of this clause, hence that the wh-phrase may not be licensed by a higher +wh+Q C (example 6, section 2); this is quite arguably a straightforward case of Relativized Minimality applying to a *non-movement* licensing dependency (wh-phrases in Iraqi Arabic requiring licensing prior to Spell-Out). It was also noted that the raising of a wh-phrase out of such an

island to a higher +Q C, although *somewhat* degraded, nevertheless did result in a sentence that was interpretable with high scope on the wh-phrase, thus markedly better than the in situ alternative (example 9, section 2). The blocking effect of an intermediate +wh+Q Comp in a wh-island is therefore absolute for licensing between a higher +wh+Q C and a second wh-phrase contained within the island, but does not affect movement in the same way. Similar Relativized Minimality effects may also be observed in those dialects of Chinese which do *not* allow for scope higher than the +wh+Q Comp of a wh-island for *any* other second wh-element in the island (as opposed to Huang's and Li's dialects which do), whether adjunct or argument, this being parallel to Thai where the scope of all wh-phrase types in a wh-island is necessarily delimited to that clause. In both Thai and Chinese relativization out of wh-islands is however perfectly acceptable, so again movement would not seem to be affected in the same way that licensing is (i.e. of a wh-phrase in a wh-island by some higher +Q C^0). This is naturally accounted for under assumptions made here - if all wh-phrases in Chinese and Thai are licensed in situ, there being unambiguous +wh question articles to trigger Comp, then no movement of a wh-phrase to SpecCP is required; therefore movement of a relative operator *through* SpecCP of the wh-island may proceed unhindered and without causing even any mild violation. What appears to block the wh-licensing relation is the occurrence between a higher +wh+Q C and a lower wh-phrase of an intermediate +wh+Q C, this constituting a structurally closer licensing head of the appropriate type.

In light of this, and turning to the checking of inflectional X^0 features, it could be suggested (if one *does* assume that all inflected verbs do undergo raising, either prior to Spell-Out or at LF) that movement to every checking head position is forced because non-local licensing of (for example) T(ense) features on an inflected verb *in situ* in V^0 would be blocked by Relativized Minimality, in the form of the structural intervention of others X^0 heads of the same essential type as T^0, notably $AgrS^0$ and $AgrO^0$. 'Long-distance' licensing of subject agreement features in $AgrS^0$ might similarly be blocked by the occurrence of $AgrO^0$ between $AgrS^0$ and the verb in situ in V. It has further been argued above that the locality constraint of Relativized Minimality may block licensing relations but not necessarily movement - therefore while 'non-

local' licensing is blocked, movement of an inflected verb for checking purposes to AgrO, AgrS and T *may* take place (and indeed is forced to). Movement should only be barred from occurring through successive head positions if these head positions are actually filled by some other element, as for example in 99 below, where a past participle has been raised over a filled V-head to check agreement features in AgrS:

(99) *La porte cassee$_i$ a ete t_i
the door broken has been[35]

However, for licensing purposes, the mere presence of an intervening head of the same type (i.e. here a head with inflectional features to check) as that which is attempting to licence an element in a lower position will suffice to block this relation from obtaining.

A similar Relativized Minimality-based account might possibly also be proposed to explain why DPs must undergo raising for feature-checking (again if one assumes that DPs always are forced to raise for checking of their features) and not be feature-checked/licensed in situ within VP, based either on the notion of intervening inflectional heads as blocking licensing relations or, the presence of intervening Specifier positions of such inflectional heads.

An additional point to note here is that the Relativized Minimality blocking effects appear subject to certain parametrization - e.g. in Chinese some speakers allow for high scope of secondary wh-phrases out of wh-islands (e.g. Huang, Li) while others do not, thus for the latter group of speakers the +wh+Q Comp of the wh-island blocks licensing of a wh-phrase inside this CP by any higher +wh+Q C, while for the former group there is no such blocking effect. Therefore it is *possible* that in a language where no overt verb-raising takes place that tense/agreement features on inflected verbs *are* actually checked 'non-locally' by Agr/T on the verbal elements in their base-generated in situ positions - i.e. if Agr/T do not count as Relativized Minimality blocking elements for licensing by other inflectional heads, then movement to T/Agr etc

[35] This example will also violate the Shortest Move constraint of course, movement of the auxiliary to AgrS being more economical.

need not take place at any level of derivation. Post-Spell-Out verb raising has been assumed to take place in languages with no overt verb-raising for the simple reason that it has been assumed that feature-checking may *only* take place under a certain strict locality (that of head-adjunction for X^0 elements); however, if feature-checking *may* also take place outside of such configurations, subject to certain licensing-specific locality constraints, then in fact one may not be forced to conclude that there is any post-Spell-Out verb movement. It could be argued that in a language such as French, inflectional heads do count as blocking elements for licensing by other inflectional heads, with the result that verb movement is forced to take place, whereas in other languages with no overt verb-raising, such inflectional heads may not constitute relevant blocking elements, hence licensing of inflectional X^0 features may take place without any movement. If successful and pushed to its extremes, such an approach (or a combination of such an approach and suggestions in the immediately preceding sections) could potentially eliminate the need to see any essential difference between the Spell-Out stage of a derivation and its imputed LF form - i.e. the structures created via applications of move by Spell-Out would effectively be LF structures too.

6.4 Expletive structures and non-local feature-checking

If suggestions in 6.1-6.3 above indicate that non-local checking of verb- and DP-features may in fact be possible with inflected verbs and argument DPs occurring in situ at Spell-Out (and further suggest why movement might have to occur in other cases where DPs and verbs are visibly raised), there is also actual evidence that long-distance non-local checking of DP-features does take place in certain instances, notably in expletive structures, as e.g. in 100:

(100) There arrived a man.

As the verb in *there*-expletive clauses agrees with the post-verbal subject (vis: There seem(*s) to have arrived only two of the delegates.), it can be assumed that agreement-features of the DP-subject must be checked against those of AgrS, just as when a subject DP is raised in non-expletive examples such as

101:

(101) A man arrived.

However, the existence of certain differences in interpretative possibilities open to overtly raised subjects and those occurring in expletive constructions, as noted by Williams 1984 and Brody 1994, constitutes direct evidence that post-verbal subjects do *not* in fact undergo any LF raising operation. Consider examples 102 and 103 from the latter work:

(102) Many people must have arrived.
(103) There must have arrived many people.

Brody comments: 'If 103 involves LF movement, then its LF representation will not be different from that of 102. But in these cases the familiar scopal ambiguity exhibited by the overt movement constructions is missing (Williams 1984). Thus in 103 must has higher scope than many people, while in 102 either scope relation is possible.' (p.28) Expletive constructions would consequently seem to involve no post-Spell-out raising of the associate DP to the SpecAgrS position. Such evidence is similar to that presented in chapter one relative to in situ wh-phrases - it is seen that certain interpretative possibilities which become available when an element is overtly moved are significantly unavailable to the same type of element when occurring in situ. An LF-raising analysis clearly predicts there should arise the same type of interpretative possibilities whether an element is moved prior to Spell-out or only after this point; because the dissimilarities observed here between in situ and overtly raised items relate to interpretation, hence the level of LF, they cannot be motivated or explained with reference to properties of PF (which might allow one to maintain a post-Spell-out raising account). If therefore such DP elements at *no* pre-LF point in the derivation occur raised into SpecAgrS, but nevertheless do carry agreement features in need of checking, it can only be concluded that these latter features are actually checked on the DPs in their

post-verbal in situ positions (and so non-locally).[36]

This being the case, one does need to consider why overt raising is forced in the absence of an expletive, i.e. giving 101 not 104:

(104) *Arrived a man.

If subject agreement features may be checked non-locally and without raising, the obligatory pre-Spell-Out movement in 101 might be attributed to checking of case features (i.e. triggering of T^0 as per 6.1, or strict locality conditions on case-feature checking 6.2). In 100/103 the post-verbal subject may perhaps receive inherent partitive case and hence not require raising to SpecTP, this accounting for the ban on definite post-verbal subjects if inherent partitive case is only available to non-specific indefinite DPs: '*There arrived the man./The man arrived.' However, if inherent case and agreement features may both be checked without raising to SpecTP/AgrS, one might expect that 104 would be well-formed. As it is not, one might assume that raising is triggered to satisfy the EPP as re-interpreted in Branagan 1992. There it is suggested that the EPP relates to a functional projection higher than TP labelled ΠP(hrase), and that some XP within a clause is base-generated with topic-like strong Π-features requiring pre-Spell-Out checking in SpecΠ. This will then explain why elements which do not carry T-related case- or *DP*-features such as PPs and CPs may appear to satisfy the EPP:

(105) Into the barn ran a horse.

(106) That he came alone surprised her.

Alternatively one could suggest that the presence of the expletive allows for non-local in situ checking of agreement features carried by the post-verbal subject DP via some kind of chain formation. If co-indexation of the DP and

[36] Noting it cannot be suggested that post-verbal DP subjects do in fact occur raised in SpecTP (having passed through SpecAgrS) and that SpecTP is simply 'rightwardly-realigned' for theme-rheme reasons (as per Chomsky 1995). If this were to be so then post-verbal subjects should occupy the same structural position as regular pre-verbal subjects, and there should be no differences relating to their scopal interaction with modal elements.

there were to create a (non-movement) chain and morphological features were to be inherited and shared by all members of the chain (perhaps via upwards chain-internal feature-percolation), then agreement features might be checked directly by there in SpecAgrS. Where an expletive is not present (allowing for non-local checking via feature-inheritance) then raising to AgrS will have to take place.[37]

Whichever of the above options is ultimately selected, the basic original observation nevertheless remains, that checking of subject agreement features must indeed be possible and take place between AgrS and a DP which does not occur raised to its Spec position (no matter what level of derivation checking is assumed to take place), hence that non-local checking of certain DP-features (at least) must in fact be allowed for.

6.5 Williams 1991/94

In addition to suggestions made above in 6.1-6.4, it is also actually possible to view the clause-internal distribution and patterning of argument DPs and inflected verbs in an essentially quite different way, this being proposed in Williams 1991/94, so that questions concerning the strictly-local or long-distance nature of verb- and DP-feature checking perhaps need not even be asked at all.

Following on from original work in Emonds 1978/80, Pollock 1989 suggests that *if* it is assumed that (certain) adverbials and (sentential) negation occur in fixed positions in a clause, it may reasonably be concluded that inflected verbs undergo movement from their base-generated positions in V^0 to (at least) two higher functional heads - Agr^0 and T^0. If this raising does not occur overtly (as in French), then it may be assumed to take place at LF (e.g. English), in order that a verb and its associated tense and agreement become linked at *some* point in the derivation. Further argumentation has subsequently led to the assumption that there are two (Subject- and Object-related) Agreement projections, and that object DPs will raise to (Spec)AgrO for the same basic reasons that subject DPs are taken to raise to (Spec)AgrS

[37] However, then cases such as 105 are left unexplained as no expletive appears here.

(and SpecTP). In the Minimalist Program such raising is then interpreted as raising for the licensing/checking of case and agreement features (and also tense features in the case of verbs).

Williams 1991/94 sets out to challenge the fundamental driving assumptions underlying such analyses of verb-movement to AgrO, AgrS and T, suggesting that cross-linguistic differences in the position of Negation and adverbials relative to inflected verbs in fact need *not* necessarily be taken as indication of any (verb)raising. Specifically Williams proposes that relevant differences between French and English may be accounted for via the suggestion that English not and French pas have inherently different lexical specifications, and that this may directly account for their distribution with regard to finite verbs. On the basis of a variety of evidence, English not is argued to be a head-X^0 sub-categorizing a rightward XP complement, the only restriction on this complement being that it may not be +tense. French pas, by way of contrast, is claimed to be lexically ambiguous, and function both as an X^0-head like English not subcategorizing for a -tense rightward XP complement ('Je veux [pas aller].' - constituent negation), *and* as an adverb which may rightwardly adjoin to an X^0-head $[_{X^0}X^0$ pas], with the (lexical) restriction that the head adjoined to must be +tense ('Je [n'ai pas] mange.'). Again, considerable substantiating evidence is given for this anlaysis of pas.

The occurrence of Negation within any clause is thus accounted for via rules governing lexical insertion rather than rules applying to verb-movement. As the distribution of adverbials may clearly also be treated in a parallel way,[38] it is possible to adopt a view that the general patterning of +/-finite verbs with regard to Negation and adverbs is fully base-generated, and does not result from the movement of verbs around Negation and adverbs occurring in (putatively) universal fixed positions. Finite verbs will be taken from the lexicon fully-inflected, as indeed in Chomsky 1993/5, but will *not* undergo raising at any level, and there will in fact be no reason to assume the existence of functional Agr/T heads to host the movement of such verbs. If this is so and verb-movement does not take place at all, either for feature-checking or for any

[38] Chomsky 1994 in fact also suggests that the position of adverbs may not be good and failsafe indication of the positions of other adjacent elements and raises many problematic issues (contra standard views held since Pollock 1989)

other purposes, the question of whether the checking of v-features is 'strictly-local' or 'long-distance' will obviously not arise. If there is further no AgrOP projected (AgrOP being justified primarily on the basis of verb-movement and the Negation/adverb ordering facts), then there can also be no object-raising to such a position, so again the hypothetical issue of the locality of object-DP feature-checking would not be a relevant question. Finally, with regard to subject DPs, if the VP-internal Subject Hypothesis (VPSH) is assumed and subjects are base-generated in the SpecVP position of the theta-role assigning verb, their occurrence in a higher position in clauses containing modals/auxiliary-verbs (e.g: $John_i$ has [t_i left].) might be attributed to the EPP as redefined in Branagan 1992 in terms of topic-like features, so the locality of (subject-)DP-case/agreement feature-checking would similarly not be raised as an issue. Alternatively one might even suggest abandoning the VPSH as several analysts have done quite recently for independent reasons.

The questions posed at the beginning of this section may thus be answered in a number of ways. First of all, the apparent 'strictly-local' nature of the feature-checking of overtly-raised inflected verbs subject DPs may be attributed to the same reasons that checking of *wh*-features appears to be strictly-local in (for example) Romanian and English, either due to the need for a licensing-head to be triggered/activated (English), or due to locality restrictions on the actual licensing-domain of the checking-head (Romanian). We further argued that these same factors which give rise to overt raising of subject DPs and inflected verbs in *certain* languages, *may* in fact be subject to cross-linguistic variation as with *wh*-licensing, and checking-heads in some cases might not require activation as licensing elements (just as +Q Comps in Chinese/Iraqi Arabic may be intrinsic licensors for *wh*), or the relevant licensing domain itself might vary in its locality (again parallel to cross-linguistic variation in *wh*-licensing domains). If however the checking of verb- and DP-features *is* taken to be universally subject to occurring within Spec-head/head-adjoined configurations (although where DPs and inflected verbs occur in situ at Spell-Out this is really still just an assumption, based on analogy and theoretical argumentation rather than any hard evidence), then it was suggested that this necessary strict locality might perhaps be argued to

be a result of Relativized Minimality. Relating to this it was further proposed that Relativized Minimality effects might in fact vary across languages (as indeed attested with wh-licensing into wh-islands) so that non-local in situ checking could again be a possibility with certain in situ elements. Various interpretative restrictions on post-verbal subjects in expletive constructions were also argued to constitute evidence that DP-feature-checking must in some cases be assumed to be effected non-locally.

Quite generally, William's 1991/94 suggestions reviewed in section 6.5 and those in sections 6.1-6.4 all allow for the possibility that there is no LF raising of DPs and inflected verbs occurring in situ at Spell-Out, and that checking of DP/verb-features (if indeed necessary) may take place non-locally. Instances of overt DP/verb-raising (again if such does occur) may be explained in terms of the those same factors which motivate cases of wh-raising (as above). Given now that positive evidence has consistently been found across a range of unrelated languages that all *wh*-checking must be effected prior to Spell-Out (e.g. Iraqi Arabic, Hindi, English, Romanian, Japanese etc), and that there is no positive hard evidence that *wh*-checking (or checking of other features) in other languages can *only* occur at LF, this ultimately makes possible (at least) a view in which *all* feature-checking must take place in the overt syntax; were this to be assumed, there would consequently be no LF movement of any kind, and Spell-Out could effectively be identified as the syntactic input to interpretation, i.e. as the interface LF itself, perhaps enriched in certain ways, but structurally no different from Spell-Out in terms of the actual positions of the linguistic elements present. Such a view, if taken up, would clearly have far-reaching consequences. For example, if there were to be no LF movement, there would arguably be no need for the Economy Principle of Procrastinate dictating that covert raising is always to be selected over overt movement; as general Economy principles have shaped much of the (mechanical) architecture of the Minimalist Program, this would then seem to require significant re-analysis of a large amount of linguistic data. For obvious reasons of space, we do not intend to engage in further critical exploration of such matters as this would take us far beyond the immediate scope and aims of the thesis as a whole; instead we restrict ourselves to merely indicating in brief the *potential* consequences and general possibilities theoretically made

available by arguments presented here.

7.0 Concluding remarks

We now present a short summary of the main conclusions and claims of this chapter. First of all, on the basis of the patterning of movement and in situ occurrences of wh-phrases in Iraqi Arabic and Hindi it was argued that the essential motivation for wh-movement is the satisfaction of a purely formal licensing requirement on wh-phrases. This was then interpreted in Minimalist terms as being a requirement that *wh*-features be checked. Contra Chomsky 1993/95 it was shown that it is actually wh-features carried by wh-phrases themselves which are minimally in need of checking/licensing, in addition to any which might hypothetically be present on a +Q Comp. Evidence was also provided from Iraqi Arabic, Hindi and a number of East European languages that *all* wh-phrases carry wh-features, leading to the conclusion that *wh* is cross-linguistically a feature common to and requiring checking on all wh-elements, just as case-features are indeed assumed to require checking on all argument DPs (in all languages). Other related evidence in Iraqi Arabic and Hindi was argued to lead the further inevitable conclusion that (wh-)feature-checking must in fact be possible between a +Q Comp and wh-phrases which do not necessarily occur in its Spec position, hence that feature-checking is not universally restricted to occurring solely in the strict locality of Spec-head/head-adjoined configurations, again contra standard assumptions of the Minimalist Program.

A consideration of multiple-wh questions in English-type languages in the light of such conclusions then suggested that secondary wh-phrases are actually (wh-)feature-checked non-locally in their in situ positions. As movement to Comp of primary wh-phrases could consequently not be motivated on the grounds of raising to a (restricted) wh-licensing domain, unlike wh-raising in Iraqi Arabic/Hindi, we proposed that there are two underlying reasons why wh-phrases may be observed to undergo movement. In the case of English, Japanese and other languages exhibiting an asymmetry in the distribution of primary and secondary wh-phrases it was argued that raising takes place in order to trigger an ambiguous potential licensing-head as a

licensor of features of one particular type. A second fundamental motivation for movement was suggested to be the need for a (wh-)element to occur in the (wh-)licensing domain of its checking head (i.e. Hindi, Romanian etc). Cross-linguistic surface variation in wh-questions was then taken to be directly related to these two basic factors, i.e. whether or not a C/F-head required triggering as a licensor in any language, this resulting in movement of a single wh-phrase, and variation in terms of the licensing domain of a +wh+Q Comp, in certain languages this necessitating raising to the relevant domain. Two essential wh-dependency types were also thus identified, those involving actual movement to Comp, and those where a licensing relation between +wh+Q Comp and a wh-phrase is established but where no raising operation takes place. The formation of both dependency types was ultimately taken to result from the same basic feature-checking requirements, but importantly each type of dependency was claimed and shown to be subject to a different (though sometimes overlapping) notion of locality, in some instances movement being possible where a licensing dependency was not, in other cases licensing relations being licitly formed into structures constituting islands for extraction. Finally we ended with the speculation that *if* features of all types (i.e. wh-, DP, X^0-inflectional features etc) may potentially be checked 'non-locally', it *might* also be possible to make a rather strong claim about the relation of Spell-Out to LF. Supposing that all feature-checking operations were to take place prior to Spell-Out (as may well be the case), LF would in all relevant respects actually be identical to Spell-Out.

Chapter Three

Partial WH-Movement

This chapter takes as its focus the syntactic properties of wh-questions which result from the use of a 'partial movement' strategy, where a wh-phrase raised to the -Q Comp of some subordinate clause is interpreted as taking scope at the +Q Comp of a higher clause which itself is occupied by an uninterpreted wh-expletive element, as e.g. in:

(1) Was glaubst du, wen_i er t_i gesehen hat?
what believe you whom he seen has
Who do you believe he has seen?

Such structures pose serious theoretical problems for various central claims made within the Minimalist Framework of Chomsky 1993/1995 concerning the motivations for movement operations and the locality of feature-checking; in particular, an element (the wh-phrase) appears forced to undergo pre-Spell-Out raising to a position in which its wh-features *cannot* in fact be checked if feature-checking is indeed restricted to occurring solely within Spec-head or head-adjoined configurations.

We will argue that the existence of Partial Wh Movement (henceforth PM) constitutes strong evidence in support of proposals made in chapter 2 that feature-checking is not subject to such strict locality and may also take place within larger domains. We will claim that wh-features on partially-moved wh-phrases *are* in fact checked in the positions in which they occur at Spell-Out (hence not in any Spec-head relation), that *no* further LF raising to the +Q Comp takes place, and that PM is ultimately triggered for the same reasons as regular long wh-movement to a +Q Comp - to determine such a Comp as a licensor for wh-elements. We will then suggest that the role played by the wh-expletive is to alter the locality in which a substantive wh-phrase may occur relative to a +Q Comp for triggering of the latter as a wh-licensor, providing evidence from Iraqi Arabic that a similar function is also played by wh-expletives in that language.

We begin with an outline of certain general properties of PM and the theoretical problems which they give rise to. We then consider generally how the relation of the substantive/real wh-phrase to the +Q Comp might be encoded, rejecting the possibility that there is LF raising to Comp of any type, either direct or indirectly via clausal Pied Piping as suggested in Horvath 1995 (to appear) and also provide evidence that PM cannot be analyzed as movement for the pre-Spell-Out checking of any non-wh related features (such as Focus). We then proceed to offer a solution to the problems of PM drawing from and supporting ideas in chapter 2 concerning the locality of feature-checking. Finally we consider how various other properties of PM may be explained in the light of this analysis, and conclude with remarks on the cross-linguistic typology of wh-expletives, suggesting that those in PM questions in German and Hungarian are wh equivalents to English it, while Japanese ka and Chinese ne are wh equivalents to there-type expletives.

1.0 Basic properties of Partial Wh Movement

In simple bi-clausal PM structures such as 2 below an uninterpreted wh-element, often homophonous with the word for what in a language, appears in the +Q Comp of a wh-question, and a wh-phrase which is interpreted/questioned (henceforth the 'real' or 'substantive' wh-phrase) occurs raised into the -Q Comp of the lower clause. PM will essentially be illustrated with data from German and Hungarian, much of which is taken from McDaniel 1989 and Horvath 1995 respectively:

(2) Was glaubst du, [mit wem]$_i$ Johann t_i gesprochen hat?
WH believe you with whom Johann spoken has
With whom do you believe Johann has spoken?

Was in 2 does not request any answer value, has no intrinsic semantic content and will therefore be referred to as a wh-expletive (as in Horvath 1995). The position occupied by such wh-expletives is arguably SpecCP, occurring to the left of the verb raised into C^0 in matrix clauses, this then seeming to indicate they are full phrasal categories rather than heads; in Hungarian such wh-

expletives are also clearly inflected for case, which also points towards their XP status.

The formation of wh-questions via a partial movement strategy in any language is generally an option which exists alongside full long-wh-movement, thus 3 is a possible question-form with the same interpretation as 2 in German:

(3) Mit wem$_i$ glaubst du, dass Johann t$_i$ gesprochen hat?
with whom believe you that Johann spoken has
With whom do you believe that Johann has spoken?

However, it cannot be argued that there is actually any *optionality* involved between PM and regular wh-questions, 2 and 3 clearly being the result of different numerations (and hence may not be compared in terms of Economy).

In addition to simple bi-clausal PM structures, multi-clausal forms are also attested in which more than one instance of the wh-expletive potentially may occur:

(4) *Was* glaubst du [*was* Hans meint [*mit wem*$_i$ Jakob t$_i$ gesprochen hat]]?
WH believe you WH Hans says with whom Jakob spoken has
Who do you think Hans says Jakob has spoken with?

From this it may be concluded that the wh-expletive is not strictly/*solely* a scope-marker for the real wh-phrase - whereas in bi-clausal structures such as 1/2 the wh-expletive can be argued to mark the +Q Comp relative to which the interrogative force of the real wh-phrase is computed, in more complex structures a wh-expletive element may occur in an intermediate -*Q* Comp and hence not perform any scope-marking function. In this respect the wh-expletives in PM structures may be argued to be different to those in languages such as Japanese (*ka*) which are *only* found in +Q Comps, directly indicating and delimiting the scope of some wh-phrase.[1]

[1] We will however later argue that the differences in distribution here actually reduce to considerations of *case*.

A certain 'optionality' in complex multi-clausal PM questions is again attested; either the real wh-phrase undergoes movement to the SpecCP position of the clause in which it is base-generated (as in 4) and a wh-expletive occurs in the intermediate Comp, *or* it may raise higher to the SpecCP of an intermediate clause (in which case no second wh-expletive is present):

(5) *Was* glaubst du, [*mit wem*$_i$ Hans meint [t_i dass Jakob t_i gesprochen hat]]?
WH believe you with whom Hans says that Jakob spoken has
Who do you think Hans says Jakob has spoken with?

However, the two alternate forms (4 and 5) again may not be mutually assessed in terms of Economy as they clearly derive from different numerations, that of 4 containing two wh-expletives, 5 only one.

What crucially has been observed is that in examples like 4/5 every SpecCP position between the +Q Comp and the clause in which the real wh-phrase originates must be filled by *some* wh-element, either a wh-expletive, the real wh-phrase, or the trace of the wh-phrase. 6 below is therefore ill-formed in German because the intermediate (-Q) Comp does not contain any of these elements:

(6) *Was glaubst du, dass Hans meint, mit wem$_i$ Jakob t_i gesprochen hat?
WH believe you that Hans says with whom Jakob has spoken

Informally then it appears that some 'linking' of the +Q Comp with the real wh-phrase must be established via wh-elements which appear in those (SpecCP) positions through which successive cyclic wh-movement might otherwise take the wh-phrase on its way to the +Q Comp in non-PM question forms.

Regarding the wh-expletive element itself, Horvath 1995 provides convincing evidence that it is not base-generated in its PF Comp position, but appears here as the result of raising from some other clause-internal position. It is shown that the wh-expletive is both overtly case-marked and that the case which it carries is not any default case which might be associated with base-generation in its clause-initial position. Rather, the case on the expletive

appears linked to the argument status of the clause in which the partially-moved wh-phrase occurs - if this clause is a selected internal argument, then the expletive will bear accusative case (7) or some other inherent objective case where accusative is not assigned (8); if the clause is an external argument then the case on the expletive will be nominative (9):

(7) Mit mondtal, hogy mire szamitanak a gyerekek?
what-ACC said-Indef-2sg that what-SUBL count-Indef-3pl the kids-NOM
What did you say that the kids expected?

(8) Mire szamitasz, hogy mit fognak mondani a gyerekek?
what-SUBL count-Indef-2s that what-ACC will-3pl say-Inf the kids-Nom
What do you expect that the kids will say?

(9) Mi zavarja Marit, hogy hogy beszelnek a gyerekek?
what-NOM bother-Def-3sg Mary that how speak-Indef-3pl the-kids-NOM
How does it bother Mary that the kids speak?

It is therefore natural to assume that the wh-expletive is base-generated in the specifier of a functional head such as AgrO or AgrS, where its case is checked, and then raised to the position it occurs in at PF. Additional evidence for this comes from the fact that a particular type of 'indefinite' agreement may be triggered/appear on the verb in the clause in which a wh-expletive occurs. This indefinite agreement otherwise appears when a (non-D-linked) object wh-phrase undergoes overt raising in the clause of the verb:

(10) Mit mondott Mari?
What-ACC said-*indef*-3sg Mary-NOM
What did Mary say?

(11) (Azt) Mondta [hogy eljonnek a gyerekek]?
(It-ACC) said-*Def*-3sg that away-come-3pl the kids-NOM
She said that the kids would come.

(12) Tudjak hogy melyik fiut szereted
know-Def-3sg that which-boy-ACC like-*Def*-2sg
They know which boy you like.

Note that in 9 above the clause containing the partially-moved wh-phrase is an *external* argument and the occurrence of the wh-expletive does not trigger indefinite agreement on the verb in the matrix. The patterning here follows neatly if it is claimed that a wh-expletive is either base-generated in SpecAgrO (when the clause selected by the matrix verb is an internal argument) triggering/checking indefinite agreement on the verb before raising to its PF position, or otherwise is base-generated in SpecAgrS (when the clause is an external argument) and does not trigger such indefinite agreement, this being associated with AgrO rather than AgrS.

While German does not display such overt clues/evidence indicating where the wh-expletive is base-generated, we shall however assume that it too is base-generated in the Spec of some functional projection, subsequently undergoing movement to SpecCP.[2]

1.1 Theoretical Implications of Partial Movement structures

Serious problems for current Minimalist assumptions about movement and its motivations are raised by the existence of partial movement structures as detailed above. Chomsky 1993, 1994 and 1995 argues that movement operations may *only* take place for the direct checking of morphological features and that such feature-checking is restricted to occurring within the strict locality of Spec-head or head-head-adjunction configurations. Raising for feature-checking occurs prior to Spell-Out where a checking head carries strong features but is otherwise delayed until LF due to the Economy Principle of Procrastinate. In Chomsky 1995 it is further added that *every* application of movement must result in *some* feature of the element moved engaging in a checking relation; thus it is not permissable for an element to move through/to

[2] All theoretical arguments built on German here can equally well be constructed with Hungarian data so nothing critical hinges on this assumption

a position if none of the features of the element are actually checked in this position.

Though initially justified with a variety of data and theoretical argumentation, it seems impossible to maintain without modification the above set of Minimalist assumptions in light of the basic observed properties of Partial Movement question forms. Such structures appear to provide hard evidence against some of the most basic tenets of checking theory as detailed in Chomsky 1993-5. Specifically, the following problems are raised by Partial Movement:

(a) How can the obligatory pre-Spell-Out partial movement of the real wh-phrase into a *-Q* Comp position be motivated? Its wh-features can only be checked against a *+Q* C^0 when occurring in the Spec of such a C^0 (according to Chomsky 1993/95), hence *not* in the -Q Comp position it is forced to raise to in PM structures. As no feature-checking results from PM,[3] it is therefore predicted: i) not to be possible to move to such -Q Comp positions, and ii) certainly not to be obligatory.

(b) If a wh-expletive obligatorily raises to and occurs in the Spec of the +Q Comp prior to Spell-Out, this, under standard accounts, must be in order to check a strong operator-feature on the +Q C^0. If such a strong wh-operator feature is thereby checked on the +Q C^0, there should then be no need for any other wh-element (i.e. the real partially-moved wh-phrase) that is related to this +Q C^0 to undergo any raising prior to Spell-Out (or perhaps at any level). Movement of a single wh-element to the +Q Comp should be all that is required for satisfaction/checking of its operator-feature and one should not attest *any* type of secondary raising. However, additional movement of a secondary wh-element is also absolutely obligatory.

[3] It will also be strongly argued below that it is not possible to suggest that PM involves checking of any other non-wh features either.

(c) In the case of complex multi-clausal PM constructions, how can the *movement* of *intermediate* wh-expletives be motivated? Again, all movement must be justified as resulting in some morphological feature carried by the element moved entering a checking relation with corresponding features on a functional head. However, unlike raising of an initial wh-expletive to a +Q Comp, intermediate wh-expletives must raise to and occur in what are plainly (the specifier positions of) -Q Comps, where no direct checking relation can be established between a wh-feature specification on the wh-expletive and the C^0 head.

These aspects of partial movement structures then call for explanation and clearly pose the strongest of challenges to the claim that all movement operations directly result in and are solely motivated by the need for a strictly local feature-checking relation to be established, where such relations further *exclusively* instantiate isolated, bi-unique relations between two elements in abstraction from other elements of a linguistic expression.

2.0 Possible Accounts of Partial Movement

Approaching the above problems we will first consider what general analysis might be offered for PM structures. Any analysis of such question types would seem to need to offer some account of how the real wh-phrase relates to the +Q Comp at which it is understood to take scope, thus how wen in 1 is interpreted as being directly questioned:

(13) Was glaubst du, wen_i er t_i gesehen hat?
what believe you whom he seen has
Who do you believe he has seen?

There may appear to be two basic ways in which the wen - (matrix)+Q C relation could be established. One possibility is that the linking between the partially-moved wh-phrase and the higher Comp is fully *direct*, with a chain of some sort being established between the two positions, perhaps the result of LF raising of the wh-phrase. The second possibility, suggested in Horvath

1995, is that the relation of wh-phrase to +Q Comp should in fact be seen as *indirect* and mediated via some other linking, essentially that between the *CP clause* in which the wh-phrase is partially-moved and the wh-expletive in the higher SpecCP.

2.1 Direct Linking and wh-chains

A direct 'chain-linking' relation between the partially-moved wh-phrase and the wh-element in the +Q Comp could conceivably be established in a variety of ways. Parallel to non-wh expletive structures such as: '*There arrived a man.*' one could suggest that the wh-phrase is a DP associate to the wh-element/expletive, raising to it at LF. A second possibility is envisaged in Anyadi and Tamrazian 1993, adopting ideas in Brody 1994. In this framework chains are formed *pre-syntactically* - a phonetically realized *contentive* element is selected from the lexicon together with a set of empty category copies, this constituting a chain. Such a chain is then inserted into syntactic structure in one single instance of 'create structure'. There is no actual movement (of the contentive element) and no derivation as such; all chains are nevertheless imputed the same basic properties as those arising via movement in other more standard frameworks, these properties - Subjacency, the ECP, Case and (basic effects of) the Theta Criterion - are essentially seen to be purely representational constraints. Anyadi and Tamrazian suggest that partial movement structures result when the contentive element is simply spelled-out phonetically in some *intermediate* position in a chain. The wh-phrase and associated 'wh-expletive' elements are then seen to constitute a 'standard' chain, with the apparent surface differences between PM and regular long-wh-movement ultimately just reducing to the issue of where phonetic interpretation of the contentive takes place.

A third possible account of PM might make use of certain new proposals in Chomsky 1995 regarding 'feature-movement/attraction'. Chomsky suggests that while it is in fact just morphological features that need enter into checking relations, due to well-formedness constraints on PF any *pre*-Spell-Out raising of features for checking must also involve pied-piping of a host element (containing these features) that can be phonetically interpreted, as pre-Spell-

Out movement of features alone would cause a derivation to crash at PF. Post-Spell-Out movement, however, will not result in structures requiring any phonetic interpretation; therefore the features necessary for checking relations may raise/be attracted without pied-piping of the additional host material necessary for PF convergence. It could therefore be suggested that in PM structures something approaching this 'pure feature movement' actually takes place in the pre-Spell-Out portion of the derivation - that a wh-phrase containing wh-features in need of checking initially raises to some (-Q) Comp position, but instead of then raising successive-cyclically further, 'projects' its wh-features off and up to the higher +Q Comp. Wh-'expletives' would then be nothing other than the pure instantiation of the wh-features associated with a wh-phrase, and languages might accordingly vary as to whether features of a particular type allow for phonetic interpretation in isolation from their normal host elements (with English *do* being a pure instantiation of tense/agreement features).

However, all such approaches where a chain is formed by movement (or hypothesized to have properties equivalent to movement) ultimately seem untenable in the light of a notable lack of locality effects that might be expected to obtain between the contentive wh-phrase and the +Q Comp. If the linking of the wh-expletive element in the +Q Comp and the real wh-phrase is established via movement (perhaps at LF), then such a linking should be subject to standard constraints on movement. A simple comparison of overt long wh-movement and parallel PM structures nevertheless shows that this is not the case. While successive-cyclic wh-movement generally occurs alongside PM in a language, the former strategy often appears to be significantly more restricted in its application than the latter, so that in many instances where PM structures are possible, successive-cyclic movement is not.

Rizzi 1992 was perhaps the first to observe the non-parallelism between partial and long wh-movement structures with regard to locality. The evidence he presents in fact indicates a case where partial movement is *not* allowed despite long movement being fine - the case of Inner Negation islands in

German:[4]

(14) Mit wem$_i$ glaubst du *nicht* dass Maria t_i gesprochen hat?
with whom believe you not that M. spoken has
With whom do you not believe that Maria has spoken?

(15) *Was glaubst du nicht, mit wem$_i$ Maria t_i gesprochen hat?
WH believe you not with whom M. spoken has
With whom do you not believe that Maria has spoken?

Generally though the pattern observed by Horvath 1995 for Hungarian is that PM structures are possible in many cases where long wh-movement is not, for example with wh-adjunct phrases and factive clauses:

(16) Mit sajnalsz hogy hogy viselkedtek a gyerekek?
what-acc regret-2sg that how behaved-3pl the kids-nom
How do you regret that the kids behaved?

(17) *hogy sajnalod hogy viselkedtek a gyerekek?
how regret-2sg that behaved-3pl the kids-nom
How do you regret that the kids behaved?

Similarly where wh-extraction from subject and adjunct CPs is bad, PM structures are fine:

(18) *?Kinek$_i$ zavarta Marit, [hogy telefonaltal t_i]?
who-dat disturbed Mary-acc that phoned-2sg
To whom did that you phoned disturb Mary?

[4] The general status of partial movement and Neg islands is however now somewhat unclear; whereas Rizzi's data indicates that negation blocks the possibility of PM structures in German, according to Horvath 1995 it may not do so in Hungarian providing that the CP in which partial movement has taken place can be interpreted as D-Linked.

(19) Mi zavarta Marit, [hogy$_i$ kinek telefonaltal t_i]?
what-nom disturbed Mary-acc that who-dat phoned-2sg
To whom did that you phoned disturb Mary?

(20) *Kivel vagy duhos [mert$_i$ talalkoztal t_i]?
who-with be-2sg angry because met-2sg
Who are you angry because you met?

(21) Miert vagy duhos [mert kivel$_i$ talalkoztal t_i]?
why be-2sg angry because who-with met-2sg
Who are you angry because you met?[5]

It therefore seems implausible to suggest that the linking of a partially-moved wh-phrase with the +Q Comp at which it is interpreted is effected via any 'direct' chain resulting from (or attributed the properties of) movement - the relation of a partially-moved wh-phrase to a wh-expletive in Comp is clearly (often) not subject to constraints on movement.

There are other reasons too which suggest that the linking of the real wh-phrase and the wh-expletive in PM structures cannot be established by any movement operation parallel to that occurring in 'regular' wh-movement or LF raising of an associate DP to an expletive. One of these concerns the observation of certain 'antilocality' effects with wh-expletive questions - where such elements are employed, the real wh-phrase may not occur in the same clause as the expletive:

(22) *Was hast du mit wem gesprochen?
WH have you with whom spoken
Who did you speak with?

Non-wh-expletive-DP-associate pairs are not subject to any such antilocality and it is not immediately obvious how an LF expletive-replacement analysis of

[5] Note the use of *miert-why* as an (uninterpreted) wh-expletive here. This will be considered further below.

PM would predict that sentences such as 22 are ill-formed. Also if one attempts to somehow equate PM structures with regular wh-movement chains, suggesting that the wh-'expletive' element either instantiates the wh-features of a wh-phrase moved to Comp, or is simply a higher member of a chain whose contentive element is spelled-out in some other chain-internal position, the ill-formedness of such sentences is equally unexpected - 'regular' wh-movement may quite normally link the positions of the two wh-elements in 22:

(23) Mit wem$_i$ hast du t_i gesprochen?
with whom have you spoken

Horvath 1995 further claims that a chain account directly linking the wh-phrase and the wh-expletive cannot be maintained in view of the fact that both wh-phrase and expletive (in Hungarian) are *independently* case-marked, it being standardly argued that chains contain a *unique* case-marked position. The case on the expletive is not a default case (which could be assigned to an element in SpecCP, as in Left Dislocation structures in certain languages) but has been shown to correspond to the case assigned by the predicate of the clause in whose Comp the expletive occurs; consequently it may often not coincide with that of the wh-phrase:

(24) Mit/*mire mondtal, hogy mire szamitanak a gyerekek?
what-acc/what-subl said-2sg that what-subl count-3pl the kids-nom
What did you say that the kids expected?

(25) Mire/*mit szamitasz, hogy mit fognak mondani a gyerekek?
what-subl/what-acc count-2sg that what-acc will-3pl say the-kids-nom
What do you expect that the kids will say?

Such observations seem to discount the possibility of any analysis in which it is suggested that the wh-'expletives' are pure instantiations of the wh-features of a (partially-moved) wh-phrase raised successive-cyclically through higher Comp positions. They also argue against analysing the wh-expletives as standard links in a wh-chain whose contentive element is phonetically spelled-

out in a chain-internal position.

In sum there appear then to be a variety of good reasons for not adopting an analysis which directly links the wh-phrase to the +Q Comp via a chain attributed the properties of movement. Standard wh-chains and expletive-DP-associate pairings appear to have many properties quite different from those observed in wh-expletive-PM structures.[6]

2.2 Clausal Pied Piping

Considerations such as the above led Horvath 1995 to propose an account in which the link between the real wh-phrase and the +Q Comp is established *indirectly* via clausal pied-piping[7]. The essence of the analysis is as follows:

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[6] Another argument against the chain approach can be added from German. Alongside Partial Movement and full wh-movement, certain dialects of German also allow for a wh-'copy' strategy, e.g:

(i) *Wen*$_i$ glaubst du *wen*$_i$ er t$_i$ gesehen hat?
who-acc believe you who-acc he seen has
Who do you believe he saw?

Such wh-copy questions seem to have (more of) the properties of regular wh-chain formation, and it may reasonably be suggested that they result from the spelling-out of copies of a wh-phrase in intermediate (-Q) Comp positions when a wh-phrase undergoes successive cyclic raising to a higher +Q Comp.

Significantly the PM strategy is not permitted in certain cases where a wh-copy question is well-formed; PM questions are not possible where the tense on the verb in the subordinate clause is determined by that in the higher CP which contains the +Q Comp (such a clause then being 'tense-dependent' on the higher clause), as with verbs like wollen-to want:

(ii) *Was willst du wen$_i$ Jakob t$_i$ besticht?
WH want you who-acc J. bribes
Who do you want Jakob to bribe?

Wh-copy questions are however fine in these environments:

(iii) Wen$_i$ willst du, wen$_i$ Jakob t$_i$ besticht?
Who do you want Jakob to bribe?

The fact that partially-moved wh-phrases may *not* occur in all those Comp positions through which regular wh-chain formation may be argued to take place (leaving phonetically spelled-out copies) would therefore seem to indicate again that wh-expletive-PM questions are not formed by any LF movement operation parallel to that observed in the overt syntax.

[7] Srivastav 1991 also offers a 'clausal' account, similar in ways to that in Horvath. Considering primarily wh-expletive constructions in Hindi, Srivastav suggests that a *semantic* process of interpretation takes the CP in which a wh-phrase occurs and substitutes it as a question-value into the position of a wh-expletive in the immediately dominating clause. There is therefore no (LF) movement of the wh-phrase *out of* its clause, explaining the observed lack

overt raising of the wh-phrase to a (-Q) SpecCP position results in the wh-phrase percolating its wh-features to the CP-node, thereby identifying the clause as a wh-phrase. The wh-expletive element, independently base-generated in the higher clause, also undergoes overt raising, from a position in which its case is checked to the +Q SpecCP. At LF the *entire* CP in whose Spec the partially-moved wh-phrase occurs then raises to the expletive in a process of expletive-*clausal*-associate replacement. The real wh-phrase thus remains within the clause in which it is partially-moved throughout the derivation, this accounting for the lack of CED effects when adjunct wh-phrases occur partially-moved within subject, adjunct and factive CPs. In this sense the analysis is close to the LF pied-piping account of extraction islands containing (in situ) wh-phrases proposed by Nishigauchi 1986 where a mechanism of wh-feature-percolation is argued to allow for entire island constituents to be pied-piped to Comp.[8] Horvath suggests that the analysis she proposes also receives justification from the fact that *overt* clausal pied-piping has been observed to take place in certain languages, for example Basque as described by Urbina 1990.[9] Here alongside regular long-wh-movement (26), raising of a wh-phrase to the Comp of a lower CP may trigger movement of the whole CP to the +Q Comp of a higher clause (27):

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of locality effects and other non-parallelism with movement chains.

[8] Note however that whereas in that work LF pied-piping to Comp of an (island) XP containing a wh-phrase is argued to correspond with and result in answer-forms in which all of the (hypothetically) pied-piped material appears (i.e. not just a value for the wh-phrase is provided but the whole pied piped constituent together with a value for the wh-phrase is repeated - see Nishigauchi 1986), the essentially parallel LF raising of a CP clause proposed here does *not* result in similar answer-forms with all of the CP containing the partially-moved wh-phrase being repeated, i.e. (ii) is not *forced* as an answer-form to (i) (and furthermore sounds rather odd as an answer):

(i) Was glaubst du, wen er gesehen hat?
WH believe you whom he seen has
Who do you think he saw?

(ii) Er hat Johann gesehen.
He has seen Johann.

Nishigauchi's account might however predict that forms such as (ii) should be the only way to answer (i) if the whole (lower) CP raises to Comp at LF (especially where the CP is a subject, adjunct or factive island).

[9] Quechua is another language with clausal pied-piping, see Hermon 1984.

(26) Nor uste duzu ikusi duela Peruk?
who think aux seen has-that Peter
Who do you think that Peter has seen?

(27) [Nor etorriko d-ela] esan du Mirenek uste du-ela Peruk?
who come aux-that said has Miren think aux-that P.
Who did Mary say that Peter thinks will come?

Urbina's analysis of clausal pied-piping in Basque is just as Horvath proposes for Hungarian PM structures - movement of the wh-phrase to the Spec position of a (-Q) CP will allow for wh-feature-percolation to the CP node and subsequent raising of the entire CP identified as a wh-phrase.

Horvath's 'clausal-associate' approach to PM structures does indeed provide a means to account for the noted lack of locality effects which a direct chain analysis fails to predict. The Hungarian data revealed in Horvath 1995 also provide far greater insight than before into the nature and origin of the uninterpreted wh-expletives appearing in PM questions. Nevertheless, there are various potentially serious problems inherent in the analysis which ultimately suggest that a different approach is required. In part the important theoretical questions raised by PM structures noted in the introduction to this chapter remain either unaddressed or unsatisfactorily resolved, while additional problems are also raised by the analysis itself.

Horvath adopts the basic proposals made in Chomsky 1993 that wh-movement is essentially driven by the need to check wh-operator-features[10], where such checking is successfully effected (only) when wh-features occur in a Spec-head checking configuration with a +Q C^0. As a result of this, and given that a wh-checking configuration is not established by the *overt* partial movement of the wh-phrase, Horvath assumes that some *LF* raising operation must bring the wh-features of the partially-moved wh-phrase into an appropriate checking relation with the +Q C. Percolation of the wh-features onto the lower CP-node after partial movement is claimed to trigger covert

[10] But see below, where it is suggested that some instances of apparent wh-movement are for checking of a *focus* feature.

raising of this CP into the Spec of the higher +Q Comp, resulting in satisfaction of the feature-checking requirement. One initial thorny problem with such a proposal is the question of why *overt* clausal pied-piping is then not a possibility in Hungarian. If percolation of the wh-features carried by the wh-phrase essentially identifies the clause as a wh-phrase, as wh-feature percolation from a wh-specifier does in English DPs for example: *whose book*, then one should clearly expect that it be possible for the clause-as-wh-phrase to undergo *overt* wh-raising to the +Q Comp. However overt clausal Pied Piping is not possible at all in Hungarian (and German). In Nishigauchi's account of percolation and island-Pied Piping in Japanese such problems do not arise, as all wh-movement is (assumed to be) covert in that language; however, in Hungarian wh-movement regularly takes place prior to Spell_out so one should predict the possibility of overt clausal Pied Piping. It should be remembered that in Basque the *same* process of partial-movement and feature percolation that is claimed to take place in Hungarian *does* indeed result in overt clausal raising. There therefore seems to be no obvious principled reason why a CP that has been identified as a wh-phrase should not be able to raise overtly as other wh-phrases in the language[11], and no way to maintain that the same basic operation in Hungarian and Basque results in overt (CP) raising in one language but not the other.

In addition to this, one might note that Chomsky 1995 suggests that pied-piping *in general* is essentially a PF-related phenomenon and hence not expected to occur with post-Spell-Out raising operations. In order for strong features to be checked prior to Spell-Out they must necessarily pied-pipe with them to the checking position a minimum of additional 'host' material that may receive phonetic interpretation. Post Spell-Out checking operations however are not constrained by considerations of PF convergence and hence features may raise without any supporting host. It is then predicted that one should expect less rather than more pied-piping with LF checking (and in fact perhaps no LF pied piping at all).

Examining the problem further, given that movement of the real wh-

[11] Noting that in Hungarian DP-internal movement of a wh-element to a Spec position does result in the DP undergoing overt raising to Comp, presumably as a result of wh-feature percolation to the DP node after movement of the wh-element to its Spec position.

phrase in PM questions is forced to take place overtly, this would seem to indicate quite clearly that the associated wh-features are strong (in a standard Minimalist analysis). Given also that, under standard assumptions, feature-checking may only take place within Spec-head/head-adjoined configurations and that the relevant checking head for the partially-moved wh-phrase is in a clause higher than the SpecCP moved to at Spell-Out, one is faced with the conflict that movement is forced to take an element to a position in which its strong feature may not in fact be checked. Aware of this problem, Horvath makes the suggestion that partial movement to a -Q Comp results in a *weakening* of the strong wh-feature carried by a wh-phrase. If the strong wh-feature is thus made weak, then checking can and must be delayed until LF (due to Procrastinate), hence the CP clause will not undergo overt raising.

Such a proposal seems difficult to maintain for various reasons. Firstly the hypothesized operation of weakening of features appears in itself somewhat dubious, not receiving support from any other observed data - were such an operation to be a possibility generally made available in language one would expect it to be taken up in more than just this isolated one case, and perhaps due to economy, it should always be the preferred option, delaying as it does until LF the longer movement necessary to the checking head. It is also unclear what type of position an element might move to in order to weaken its features. There are also further problems inherent in a 'feature-weakening' approach, certain of which relate to the observation that partial wh-movement must take a wh-phrase to the SpecCP of a clause which is immediately dominated either by the clause with the +Q Comp or an intermediate clause whose SpecCP is filled by a wh-expletive (or its trace), thus 28, as opposed to 29 or 30, is unacceptable:

(28) *Was glaubst du [dass ich meinte [mit wem$_i$ Johann t$_i$ gesprochen hat]]?
WH believe you that I said with whom J. spoken has
Who do you think I said Johann spoke with?

(29) Was glaubst du [was ich meinte [mit wem$_i$ Johann t$_i$ gesprochen hat]]?
WH believe you WH I said with whom J. spoken has
Who do you think I said Johann spoke with?

(30) Was glaubst du [mit wem$_i$ ich meinte [t_i dass Johann t_i gesprochen hat]]?
WH believe you with whom I said that J. spoken has
Who do you think I said Johann spoke with?

If partial movement weakens the strong wh-features of the wh-phrase and percolates these features onto the CP, it is unclear why 28 should be ungrammatical - at LF the CP-wh-phrase should be able to check its wh-features in the way that other wh-phrases in situ might be supposed to[12], without any 'wh-linking' through each intervening clause, as e.g. in:

(31) Wer$_i$ t_i glaubt [dass Hans meint [dass Johann was gegessen hat]]?
who believes that H. says that J.what eaten has
Who believes that Hans says that Johann ate what?

The partially-moved wh-phrase crucially needs to be in some particular configuration linking clauses to the matrix +Q C *by Spell-Out*, yet the claim here is that the relevant weakened wh-features on the CP only need checking by *LF*. If feature-checking of the CP were to take place only after Spell-Out at LF , there is clearly nothing that should bar the clause from raising (perhaps through intermediate SpecCPs) to the matrix +Q Comp for wh-checking without the need for an intermediate wh-expletive (29) or for the wh-phrase to be partially-moved to the SpecCP of a clause immediately dominated by the matrix (30).

One might add to this certain remarks made in Chomsky 1995. There it is suggested that it is only +interpretable features which are *strong* that actually require any checking. If partial movement weakens the wh-feature, then, being +interpretable, it should not in fact require checking at all. However, examples such as 28 clearly show that a partially-moved wh-phrase may *not* occur freely in any structure, but must appear in a SpecCP immediately dominated by a clause containing a wh-expletive. This indicates

[12] If it is suggested that wh-phrases, such as in situ and partially-moved wh-phrases, not occurring in a +Q Comp prior to Spell-Out do *not* require any feature-checking, then the unacceptability of 28 is unaccounted for - i.e. one must assume that these elements do also have wh-features in need of checking.

that the wh-phrase (or alternatively the wh-CP perhaps) *does* in fact have to satisfy a licensing requirement related to its wh-features. If Chomsky is correct in claiming that +interpretable features only requiring checking if they are strong, then this means that the wh-features are *not* weakened by partial movement. It also has as interesting consequence (reinforcing claims made in the previous chapter) that the wh-features of the wh-phrase/CP are checked in the position in which they occur at Spell-Out/PF and *not* in any Spec-head configuration with a +Q C - the restrictions on where the wh-phrase may occur indicate that the +interpretable wh-features present must be strong (otherwise being weak and not in need of checking they should show no locality restrictions); being strong they must be checked immediately and before Spell-Out. As neither the wh-phrase itself nor the CP is in the Spec of the checking +Q Comp at PF, checking of the wh-features must therefore take place non-locally, as has been previously argued.

A further argument against the feature-weakening account of partial movement (noted by Horvath) is that it predicts that there should be no clausal pied-piping in Basque - if movement to a -Q Comp resulting in wh-feature percolation to the CP also weakens the wh-features, then when this occurs in Basque it should also have as effect that the wh-CP is not forced to undergo pre-Spell-Out raising to the +Q Comp, contrary to what is in fact observed. Horvath suggests that this overt raising of the CP might perhaps be a function of a strong feature in the +Q C requiring pre-Spell-Out checking, but then admits that such movement would be in violation of Chomsky's 1993 Principle of Greed, as the movement would not be taking place for the direct satisfaction of the element undergoing movement.[13] This highlights a more general problem with PM structures and feature-checking; even if one abandons the Principle of Greed, as Chomsky 1995 does, it is not possible to explain why

[13] If one does nevertheless suggest that the wh-CP in Basque raises to satisfy a strong wh-operator feature on the +Q C^0 (and not for checking of wh-features weakened on the CP itself) then it is again (incorrectly) predicted that overt clausal Pied Piping *should* be possible in German/Hungarian in the absence of a wh-expletive - partial wh-movement would weaken wh-features on the wh-phrase (as in Basque) but strong wh-features remaining on the +Q Comp should trigger raising of the wh-CP. Forms such as (i) are however quite impossible:

(1) *[Wen er gesehen hat]$_i$ glaubst du t_i?
who he seen has believe-2sg you

(minimally) two independent movement operations take place - that of the wh-phrase itself and that of the wh-expletive to Comp. If in wh-questions the relevant strong feature in need of checking is on the actual (+Q) C^0, then movement of the wh-expletive to the Spec of this C should be sufficient to satisfy checking and no movement (at all) of the wh-phrase should be attested; if the feature to be checked is that carried by a wh-phrase and it is weakened via partial movement, there should be neither movement of the wh-expletive to Comp (in Hungarian/German etc) nor overt clausal pied-piping to Comp (as in Basque). Also if one does suggest that the wh-CP in Basque raises to satisfy a strong wh-operator feature on the +Q C^0 (and not for checking of wh-features weakened on the CP itself) then it is again (incorrectly) predicted that overt clausal Pied Piping *should* be possible in German/Hungarian in the absence of a wh-expletive - partial wh-movement would weaken wh-features on the wh-phrase (as in Basque) but strong wh-features remaining on the +Q Comp should trigger raising of the wh-CP. Forms such as (32) are however quite impossible:

(32) *[Wen er gesehen hat]$_i$ glaubst du t_i?
who he seen has believe-2sg you

Related to this is a further problem created by *multiple* wh-expletive constructions. It *may* be possible to motivate movement of a wh-expletive to a +Q Comp for checking of a strong operator feature if one abandons the principle of Greed, and a feature-weakening hypothesis could conceivably account for partial movement of the real wh-phrase, though taken together this of course gives rise to the conflicts and incorrect predictions noted above. However, the obligatory pre-Spell-Out movement to a -Q Comp of any intermediate wh-expletive remains extremely difficult to explain, as for example in:

(33) Mit hitt Mari, hogy **mit** akartal, hogy kinek telefonaljunk?
what-acc believed Mary-nom that what-acc wanted-2sg that who-dat phone-1pl
To whom did Mary think that you wanted that we phone?

Such movement cannot be claimed to check any operator feature, unlike that occurring in the matrix, as the intermediate clause contains no +Q Comp. If partial movement of the wh-phrase itself results in a weakening of wh-features on this element, then any checking of these features should only take place *post*-Spell-Out (if at all); however, movement of the intermediate expletive is *forced* to occur *prior* to Spell-Out. Were this intermediate wh-expletive to be somehow involved in a *post*-Spell-Out checking operation necessitating its occurrence in an intervening Comp position (for whatever reason), then there is no reason why its movement to this Comp should need to occur *before* Spell-Out; rather one should expect it to raise at LF, by economy/Procrastinate. All of this clearly seems to indicate that checking of wh-features in PM constructions in Hungarian and German must in fact be effected prior to Spell-Out, and that as a result the mechanism by which such checking is carried out must be 'in place'/established by Spell-Out, this apparently requiring the creation of a 'linking' of the +Q Comp to a wh-phrase raised to some -Q SpecCP via intervening Comps also occupied by wh-elements.

One final point will now be made here which further seems to argue against the general wh-feature percolation and (LF) clausal-associate raising analysis. This concerns the possibility of the CP in which partial movement has taken place receiving interpretation as a yes/no question. In Hungarian, partial wh-movement may also occur within clauses selected by question-embedding verbs; the result is that the wh-phrase is interpreted as taking scope at a +Q Comp outside of the (embedded) clause, and the clause itself is interpreted as a yes/no question:

(34) Mit kerdeztek, hogy kivel talalkoztal-e mar?
what-acc asked-3pl that who-with met-2sg-Q already
With whom did they ask whether you had met?

This seems quite unexpected under the proposed account - wh-feature percolation after partial movement is essentially claimed to identify a CP as a clausal wh-phrase, yet intuitively this should conflict with its interpretation as a yes/no question - any interrogative clause should be identified *either* as a

+wh-CP *or* a yes/no question[14] but not both simultaneously, and it would seem impossible for the same CP to receive interpretation as +interrogative at two independent +Q Comp positions (i.e the matrix +Q Comp after LF raising and the embedded +Q Comp).[15] Strong evidence that this is so comes from a consideration of overt clausal pied-piping in Basque; in addition to the possibility of clausal raising being triggered by *wh*-movement to the Comp of a lower clause, Basque also allows for *focus*-movement to trigger such pied-piping (perhaps as a result of focus-feature percolation to CP):

(35) [JON etorriko d-ela bihar] esan diot Mireni
Jon come aux-that tomorrow said aux Mary
'That it is JON that will come tomorrow, I have told Mary.'

Significantly clausal pied-piping with yes/no questions *is* possible when a *focused* phrase triggers the pied-piping, but totally unacceptable when attempted with clause-internal raising of a wh-phrase (despite wh-clausal pied piping generally being available as a result of such wh-raising):

(36) [JON d-enentz jin] galdetu dut.
Jon has-comp come asked have
'[Whether it is JON that has come] I have asked.'

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[14] One may suggest that a CP is identified as +wh-interrogative if a wh-phrase occurs in SpecCP, percolating its wh-features to CP, and as (-wh)-interrogative (=yes/no) by default if no wh-phrase occurs in SpecCP. If a wh-phrase is then raised to Comp, this will consequently exclude the (default) interpretation of a clause as a yes/no question, i.e. the default yes/no interpretation will *only* be available when C^0 is not (automatically) triggered as +wh by the presence of a wh-phrase in Spec of C^0.

[15] Furthermore, if a clause identified as a wh-CP in virtue of the hypothesized feature-percolation undergoes LF raising to a higher +Q C, the *wh-trace* left behind by such movement should not allow for satisfaction of the selectional requirements of the question-embedding predicate at LF, just as the wh-trace left by successive cyclic movement in (i) does not satisfy parallel requirements for the verb wonder:

(i) *Who$_i$ did you wonder [t_i arrived]?

(37) *[Nor etorriko d-en] galdetu duzu?
who come aux-comp asked aux
'[Who will come] have you asked?
Intended interpretation: Who is the x, such that you have asked whether x will come?

Basque thus clearly shows that what is suggested to take place at LF in Hungarian cannot in fact be a legitimate possibility - if a wh-phrase percolates its features to a CP and (thereby potentially) triggers raising, the CP will be fully identified as a wh-phrase and this will conflict with any (other) intended interpretation as a yes/no question. Pure focus feature percolation on the other hand will not give rise to any such conflict (and so may allow for pied piping of yes/no questions).

One can therefore reasonably assume that there can be no LF clausal pied-piping parallel to 37 in Hungarian examples such as 21, and that where a wh-phrase is partially-moved in embedded yes/no questions (and indeed in all types of subordinate clause) its method of interpretation is not a result of wh-feature-percolation triggering (LF) raising of the clause it occurs in (as in Basque). Instead the wh-phrase must be taken to establish some linking to the +Q Comp that is in some way *direct*, and not *indirectly* mediated via the CP clause, (yet at the same time *not* involve movement or a chain attributed properties of such).

2.3 Partial Movement as Focus Movement

Partial Movement structures thus present a number of seemingly intractable problems for the 'standard' account of movement, feature-checking and Economy principles set out in Chomsky 1993/95. It appears impossible to motivate and account for the obligatory pre-Spell-Out raising of the real wh-phrase and any intermediate wh-expletives given the strict Spec-head locality under which (wh)-feature checking is assumed to take place. However, one alternative potential solution to such general problems which might be entertained is to suggest, as Horvath indeed does, that the various movement operations occurring in PM constructions are not in fact triggered for checking

of any *wh*-feature, but rather raising to the Spec of a *Focus*-oriented functional head, in order to check strong *focus* features.

Horvath notes that in Hungarian wh-phrases consistently undergo raising to a position into which other types of focused elements may move (this in German and English too), hence one might assume that the partial movement of a wh-phrase to a -Q clause-initial position may be explained as an instance of simple focus-checking; the fact that obligatory pre-Spell-Out PM does not bring the wh-phrase into the Spec of a +*Q* checking head would then no longer constitute a problem, as it would not be a wh/+Q-related feature which is responsible for the raising, but rather a focus-feature which (hypothetically) would get directly checked in the position moved to. Movement of a wh-expletive into the higher +Q Comp might satisfy (and be motivated by) a strong wh-operator-feature associated with this head, while raising of intermediate wh-expletive elements could be claimed to take place for *focus*-checking reasons, just as with movement of the wh-phrase, this arguably being supported by the observation that non-wh-expletives may optionally raise to focus-check in Hungarian:

(38) AZT Mondta, hogy eljonnek a gyerekek]
IT-acc said-3sg that away-come-3pl the kids-nom
She said that the kids would come.

Such proposals might then allow one to maintain both that feature-checking operations solely take place within the strict locality of Spec-head (or head-adjoined) configurations and that all movement necessarily occurs for the *immediate* satisfaction of a checking requirement (in such a local configuration).[16]

[16] Suggesting that partial 'wh'-movement may essentially be driven by a need to check strong *focus* rather than *wh*-features, Horvath still assumes LF raising of the CP in which partial movement has taken place, allowing for pre-LF checking of weak wh-features percolated onto the CP node. This LF clausal-raising is in fact argued to reduce to *Case*-theoretic reasons, the need for a CP to be 'associated' with some case-marked element - the wh-expletive here. However, such an approach clearly predicts that *all* CPs should need to raise to case-marked expletives at LF, not just those in which partial movement has taken place. In turn this would lead one to expect Inner Neg island effects (as earlier noted with PM structures in German - examples 14/15) also with non-'wh'-clausal associates, this resulting from *general* LF CP-raising over Negation (the unacceptability of the German examples such

However, on closer inspection, there are good reasons to reject such a possible explanation of partial movement. The first of these relates to the fact that some kind of linking via wh-expletive elements of *all* intermediate Comp positions between that of the partially-moved wh-phrase and the actual +Q Comp *must* be effected by Spell-Out, indicating that partial wh-movement is indeed *wh*-related movement and not just purely for focus reasons. If partial-movement were simply focus-checking, we should expect sentences such as 38 below to be well-formed:

(38) *Was glaubst du [dass Hans meint [mit wem$_i$ Jakob t$_i$ gesprochen hat]]?
WH believe you that Hans says with whom Jakob spoken has
Who do you believe that Hans says that Jakob spoke with?

Nevertheless, an acceptable form of 38 can only be 39 with inclusion of a second wh-expletive in the intermediate Comp, or 40 with the wh-phrase

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as 15 in Horvath's view must be solely ascribed to the LF raising of the *CP* and not to any direct linking of the wh-phrase and the +Q Comp). In spite of this, non-wh-CP 'associates' to expletives do *not* seem to show any sensitivity to intervening negation, which tends to argue against a pure Case-raising account.

Furthermore, in multi-expletive structures, case-driven movement will be able raise a CP maximally to the first dominating wh-expletive, which will occur in an intermediate -Q Comp. The wh-features on the CP will therefore not be checked. One could then suggest that it is rather +interrogative features on the +Q Comp *alone* (and not on the wh-CP) which require checking, this being effected by movement of the highest wh-expletive to the +Q SpecCP. However, this can not be the case either as it has been noted that wh-expletives must occur in *every* Comp intervening between the wh-phrase and the +Q C. In the hypothetical abstract structure (i), the second wh-expletive (wh-ex2) *must* be present:

(i) [Wh-ex1$_i$ t$_i$ [wh-ex2$_k$ t$_k$ [wh-ex3$_l$ t$_l$ [$_{CP}$ wh-phrase$_m$ t$_m$]]]]?

Case-raising will take the CP to wh-ex3 and a strong wh-operator feature in the +Q Comp may be satisfied by movement of wh-ex1 to the matrix SpecCP. The fact that the occurrence of wh-ex2 is obligatory must be assumed to be because (wh)-features on the wh-phrase itself are (also) in need of checking (and this will not take place if case-raising of the CP will take it only to the first dominating wh-expletive position).

It might also be added that if one proposes that the CP raises through the position of *every* wh-expletive to the matrix +Q Comp (although again this cannot be motivated by a need to 'associate' with Case), then such a chain will be associated with *multiple* instantiations of case - each wh-expletive being case-marked. One reason Horvath gives for arguing *against* a direct *chain* linking of the partially-moved wh-phrase and the (wh-expletive in the) +Q Comp is precisely that the wh-phrase and the expletive are independently case-marked (with potentially contrastive cases), whereas chains are generally claimed to contain a *single* case-marked position. However, here an LF chain linking the lower CP to the +Q Comp via intermediate wh-expletives would indeed have just this property of containing multiply-case-marked elements.

(partially)-moved to this intermediate position:

(39) Was glaubst du [was Hans meint [mit wem$_i$ Jakob t$_i$ gesprochen hat]]?
WH believe you WH Hans says with whom Jakob spoken has
Who do you believe that Hans says that Jakob spoke with?

(40) Was glaubst du [mit wem$_i$ Hans meint [t$_i$ dass Jakob t$_i$ gesprochen hat]]?
WH believe you with whom Hans says that Jakob spoken has
Who do you believe that Hans says that Jakob spoke with?

It should be possible for the focus-features of an XP to be checked in the Spec of *any* (potentially) focus-related head (C^0 in German). Considering 40, if partial movement were to take place just in order to check/licence a focused phrase, it should be possible that these focus-features of the wh-phrase be checked in the SpecCP position of the lowest clause (as would have to be argued *is* the case in 39). However, in the absence of an intermediate wh-expletive, the real wh-phrase is forced to move to the intermediate Comp position itself. If focus-features are checked/checkable in the lower Comp, there is then no explanation why this further (partial) movement is triggered, if not indeed for wh-licensing reasons. Otherwise put, there is no reason why focus-checking should be forced to occur in the intermediate Comp in 40 when it should be legitimately possible in the lowest Comp.

Considering 39, that a second intermediate wh-expletive is necessary when the wh-phrase is in fact only raised to the lower clausal Comp similarly indicates that partial movement of the wh-phrase is not for focus-checking - hypothetical focus-checking of the wh-phrase should be satisfied by raising to the lower Comp alone and this should not call for any 'additions' to other parts of the structure; crucially that it is the inclusion of an additional *wh*-element which renders 38 acceptable (in 39) is clear evidence that it is rather some *wh*-related licensing condition which is need of satisfaction when partial movement of a wh-phrase occurs, noting further that no such intermediate wh-elements are necessary where partial movement does not take place and the wh-phrase remains *in situ*:

(41) Wer glaubt, dass Hans meint, dass Jakob mit wem gesprochen hat?
who believes that Hans thinks that Jakob with whom spoken has
Who believes Hans thinks Jakob spoke with who?

Thus partial movement is essentially *wh*-oriented, requiring a 'successive cyclic' wh-linking to the +Q Comp after its application, and partial movement is itself directly *driven* to a particular Comp by the need to establish such a linking. A focus-raising analysis simply cannot account for such facts.

The focus account of partial movement also fails for a second very basic reason. If wh-phrases may undergo pre-Spell-Out raising to a -Q Comp for checking of focus features in *certain* instances, notably those observed where a wh-expletive occurs in the +Q Comp (by hypothesis satisfying a strong operator feature of C^0), then such focus-raising of wh-phrases should be *generally* available where other relevant conditions are satisfied. In multiple wh-questions in Hungarian, movement of a single wh-phrase to the +Q Comp may be argued to minimally satisfy an associated strong wh-operator-feature, with the result that secondary wh-phrases can remain in situ:

(42) *Kinek* mondta [hogy Janos talalkozott *melyik lannyal*]?
who-Nom said that Janos met which-girl with
Who said that Janos met with which girl?

This obviously indicates that wh-phrases do not always *need* to undergo any (pre-Spell-Out) 'focus'-movement. However, the focus account does clearly predict that such focus-movement, if only optional, should at least be *possible* for the secondary wh-phrase, taking it to the 'partially-moved' Comp/Focus position of the lower clause. Contra expectation this is apparently *not* a possibility:

(43) **Kinek* mondta [hogy *melyik lannyal* talalkozott Janos]?
who-Nom said that which-girl-with met Janos

Were partial movement *not* to be triggered by some *wh*-licensing strategy but to take place purely for focus reasons, there is no reason why it should not also

be possible in sentences such as 43. The generalisation is that partial movement can *only* occur in Hungarian when a *specific* type of wh-element appears in the +Q Comp, hence again that PM is *wh*-related (in some way) and does take place not for wh-independent focus reasons.[17]

Also one should add that not only *may* PM occur when a wh-expletive occurs in the +Q Comp, it is *forced* to take place in these instances. Given the fact that secondary wh-phrases may occur fully in situ in both Hungarian and German, hence that such elements *need* not always raise for focus-checking (under a focus account of PM), one would then have to state that focus-checking is nevertheless forced to occur just in those cases where a wh-expletive appears, an ad hoc stipulation impossible to justify.

Two final points may further be made here relative to the focus-checking hypothesis. First, a potential focus-raising account of partial wh-movement is at odds with other facts of focus in German (at least). Although the *matrix* SpecCP position in German is arguably a position in which general focus-features may be checked, it is not possible to 'focus' non-wh elements in embedded Comp positions:

(44) *Johann glaubt, Martin wir haben gesehen.
Johann believes Martin we have seen
Johann believes it is Martin that we saw.

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[17] McDaniel 1989 notes that *certain* dialects of German which show PM do also allow for it to occur where a full wh-phrase rather than a wh-expletive appears in the +Q Comp:

(i) Wer$_i$ t$_i$ glaubt [wen$_k$ Hans t$_k$ bestochen hat]]?
who believes whom H. bribed has
Who believes Hans bribed whom?

However, this cannot be focus-movement either, as the partially-moved wh-phrase must necessarily raise to a Comp position in which it is one clause down from the +Q Comp or linked to this +Q Comp by wh-elements in all intervening Comps:

(ii) *Wer$_i$ t$_i$ glaubt [dass ich meinte [mit wem$_k$ Jakob t$_k$ gesprochen hat]]?
(iii) Wer$_i$ t$_i$ glaubt [was ich meinte [mit wem$_k$ Jakob t$_k$ gesprochen hat]]?
(iv) Wer$_i$ t$_i$ glaubt [mit wem$_k$ ich meinte [t$_k$ dass Jakob t$_k$ gesprochen hat]]?

i.e. partial movement is not free to occur to any position where focus-features could hypothetically be checked but is constrained by the need to establish a *wh*-linking to the +Q Comp.

If partial wh-movement to an embedded -Q Comp occurs for general focus-checking, it is unclear why other non-wh elements should not be able to focus-check in these positions.

Secondly, certain significant differences have been pointed out relating to the possible co-occurrence of wh-raising and yes/no questions within the same clause in Hungarian and Basque. If partial (wh)-movement were to be for focus-checking alone, then it is unclear why this should interfere with potential construal of a clause as a yes/no question (Hungarian). Pure *non*-wh focus raising (in Basque) *does* allow for the clause in which such raising takes place to be interpreted as a yes/no question (though *wh*-raising does not), as might perhaps be expected - *pure* focus-raising and checking is an operation which may be independent of and not interact with any interrogative features in C^0. Partial wh-movement on the other hand does interact with an interrogative C^0, allowing one to conclude that it is not focus-features *alone* which become involved in a checking relation with the Comp that is moved to.

2.4 Aside: Overt Clausal Pied Piping - a possible explanation

Before continuing on to examine what general solutions there may be for the theoretical problems raised by PM structures, we briefly pause to consider why it is that certain languages but not others allow for (overt) pied piping of wh-clauses, and suggest that such phenomena may in fact be accounted for in terms of focus-checking:

What is in need of explanation is why Basque 45 is possible where English 46 or 47 are not:

(45) [Nor etorriko d-ela bihar] esan diozu Mireni?
who come aux-that tomorrow said aux Mary
Who did Mary say will come tomorrow?

(46) *[Who$_k$ t_k will come tomorrow]$_i$ did Mary say t_i ?

(47) *[What$_i$ did John buy t_i]$_k$ has Bill claimed t_k ?

Webelhuth 1989 observes that while wh-feature percolation upwards from a specifier to a dominating maximal projection is a general possibility across category types such as N, A and Adv, giving rise to a pied piping wh-movement to Comp (48-50), for some reason this is not possible when a wh-phrase occurs in Spec of *C* (vis 46-47):

(48) [Which book] did you buy?
(49) [How big] was the party?
(50) [How quickly] did he run?

Basque (and Quechua) nevertheless do appear to allow for just this possibility so it should not be ruled out by any invariant universal principle, in addition to which there seems to be no obvious reason why wh-percolation from SpecCP should not be permitted.

We suggest that what critically distinguishes Basque from English/German etc is that in Basque-type languages wh-phrases may carry focus and wh-features which are *formally distinct.* While wh-phrases cross-linguistically are generally argued to constitute *focused* information, it is quite possible that in many/most languages this does not result or translate into there being two *separate* sets of features (carried by wh-phrases) corresponding independently to wh *and* focus. However, were the wh-phrases in some language to contain both focus and wh-features formally independent of eachother, it is possible that such features might allow checking in different loci, this giving rise to a potentially different patterning from languages in which *wh* and *focus* form a single composite feature-set. If one supposes that this is indeed the case in Basque and Quechua it may be possible to explain cross-linguistic variation with regard to clausal pied piping in the following way. In Basque a wh-phrase may raise to Comp to check focus features against C^0 *without* the wh-features of the wh-phrase also necessarily having to enter into a checking relation with (any potential +interrogative features on) C^0. From the Spec of C position, wh-feature percolation to the dominating CP may then take place resulting in the CP being identified as a wh-phrase, triggering raising to a higher +Q Comp (i.e. overt clausal pied piping). In English/German focus-feature checking may not take place independently of

wh-feature checking as focus/wh features comprise a single feature set; movement of a wh-phrase to a Comp position cannot therefore be triggered by checking of a focus specification if the wh-features are not also simultaneously checked. As a result, English/German will not allow wh-raising to the Spec of a -Q Comp position from which wh-percolation to CP theoretically could apply,[18] and wh-clausal pied piping will not occur.

If such an account is on the right lines, one would expect that wh-phrases in Basque might raise to a -Q Comp without this necessarily triggering pied piping (to a higher +Q Comp), i.e. if the focus-features of wh-phrases in Basque may be checked independently of wh-features and if a strong operator feature in the +Q Comp is satisfied/checked by some other wh-phrase, it should be possible that a secondary wh-phrase undergoes raising to a lower -Q Comp for focus-feature checking alone. This prediction is indeed borne out:

(51) Zein kazetaria esan du [*zein legea* apurtu du ela Major]?
which journalist say-aux which law broke aux Major
Which journalist said Major broke which law?

Basque thus shows evidence of allowing for the pure feature-checking of wh-phrases which may not occur in Hungarian (as argued above relative to examples 42/43).[19]

Webelhuth's original generalisation concerning pied piping was that feature-percolation is broadly possible from a Spec to its immediately dominating XP. The 'gap in the paradigm', that a wh-phrase in SpecCP seemingly may *not* percolate wh-features upwards to CP resulting in clausal pied piping, can now be explained by the fact that raising to such a SpecCP position is not permitted or triggered in the first place when the wh-phrase

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[18] Unless of course wh-features are in fact checked in this position, as will be argued is the case in partial movement structures, and if the wh-features are indeed checked in such a position, there will consequently be no trigger for clausal pied piping (further wh-raising for licensing), so none will be attested.

[19] Bahasa Indonesia is another language which arguably allows for focus-features on a wh-phrase to be checked independently of wh-features - see Saddy 1991 and chapter 1 for examples in which a wh-phrase raises to a focus position which is not a +Q Comp (and where this raising is not necessary for licensing of wh-features on the wh-phrase, unlike the PM cases).

does not check features in this position. In all other instances of wh-percolation and pied piping in English and German by way of contrast, the wh-element actually occurs *base-generated* in the relevant Spec position[20], so raising to this position does not have to be justified/triggered. Thus ultimately it may in fact be possible to maintain in full the generalisation that (wh-)features may be percolated from Spec positions (and allow for pied piping of the dominating XP), offering a principled explanation for the apparent lack of CP pied piping in English/German which reduces to the potential justification for movement to a Spec position.

3.0 Towards a solution

Close examination of the complex patterning of elements involved in partial movement wh-questions reveals two essential significant properties of such construction types - firstly, movement of both wh-expletives and real wh-phrase is *wh-related,* in the sense that it takes place solely in order to satisfy certain (as yet undetermined) well-formedness conditions on *wh*-questions and *not* for licensing of any non-wh feature such as focus; the various movement operations are then ultimately *all* driven by a single goal - formation of a licit wh-question. Secondly, all such operations must necessarily take place *prior* to Spell-Out, this indicating that certain *formal* properties of a wh-question require satisfaction before PF, by hypothesis that wh-features need be checked by this point. Given that the (real) wh-phrase raises only to the Spec of a *-Q* C but that its wh-features must somehow be licensed in the general structure formed, this is obviously problematic for claims regarding the (strict) locality of feature-checking made in Chomsky 1993/95. A 'clausal-associate' hypothesis

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[20] In Hungarian DP-internal movement of a wh-element to SpecDP may result in pied piping of the DP to a +Q Comp:

(i) [Kinek$_i$ a t_i feleseget]$_k$ lattad t_k ?
who-dat the wife-acc saw-2sg
Whose wife did you see?

Again it may be argued, as with Basque 'wh-movement' to a -Q Comp, that the initial movement to SpecDP is triggered by a (non-wh) feature-checking relation being satisfied between the element in SpecDP and D^0, such movement also occurring DP-internally with non-wh elements. Having raised to SpecDP, kinek may then percolate its wh-features to DP resulting in pied piping to Comp.

of partial movement, suspect for other reasons detailed above, will also not solve this latter problem, the wh-phrase still not occupying a 'standard' wh-checking position at the point where such checking must be effected.

One therefore seems forced to entertain other assumptions about partial movement structures and the possible mechanisms by means of which wh-features may be licensed. In chapter two we have already argued that feature-checking need not be restricted to taking place solely within the strict locality of Spec-head/head-adjoined configurations, and that in German a wh-phrase may be checked in (virtually) any sentence-internal position c-commanded by the +Q Comp once the latter has been triggered as +wh. Rather than being problematic in any particular way, the fact that a wh-phrase must be checked by Spell-Out but does not occur in Spec of a +Q Comp (in PM questions) may therefore actually be taken as vindication of the general approach to licensing/feature put forward here. What *is* however very much in need of explanation now is why it is that the wh-phrase in wh-expletive questions need undergo any movement at all.

3.1 Partial Movement and Tense

In any theoretical approach, it might naturally be expected that the pre-Spell-Out raising to a +Q Comp of a wh-expletive takes place for the same basic reasons that 'regular' pre-Spell-Out wh-movement of non-expletive wh-phrases in non-PM questions does - for Chomsky 1993/95 to check a strong operator feature in Comp, here in order that Comp be triggered as a licensor for all wh-elements in its domain. One would then expect that other secondary wh-elements might remain in situ, as in standard multiple wh-questions, e.g:

(52) *Wer*$_i$ t_i glaubt, dass Hans *wen* gesehen hat?
who believes that Hans whom saw

However, when it is an *expletive* type wh-element that is raised to the +Q Comp, additional movement of a secondary wh-element is also forced to occur (the partial movement of the real wh-phrase). As one might assume that the wh-expletive should itself satisfy a strong operator-feature in the +Q Comp (or

trigger Comp as a wh-licensor), this secondary movement of the real wh-phrase is clearly both unexpected and requires motivation.

We have earlier suggested that the domain in which a wh-phrase in languages like German may be licensed is essentially free (providing some c-commanding Comp is triggered as a licensor). One possibility to account for partial movement of a (secondary) wh-phrase might then be to suggest that the occurrence of a wh-*expletive* in Comp somehow *alters* this locality domain, effectively reducing it to something like that argued to obtain in languages such as Iraqi Arabic/Hindi and forcing a wh-phrase to raise into this (reduced) domain in order to be licensed. To make this idea somewhat clearer will now require a short digression into the interaction of *tense* and wh-licensing that will nevertheless also be highly relevant in further argumentation.

Wh-licensing in Iraqi Arabic and Hindi has already been shown to be sensitive to the notion of *tense domain* - any wh-phrase in situ within the tense domain in which the +Q Comp occurs may be licensed by this Comp, while wh-phrases in lower tense domains may not. A tense domain in such languages again broadly constitutes a tensed clause together with any *non-finite* dependent clauses. Where a wh-phrase is base-generated in a tensed clause that does not contain a +Q Comp, it will be forced to raise into some higher tense domain that does:

(53) Sheno$_i$ tsawwarit Mona [Ali ishtara t_i]?
what thought Mona Ali bought
What did Mona think that Ali bought?

Partial Movement structures in German are also significantly sensitive to the notion of tense domain. Initially it was stated that in PM structures some wh-element (a wh-expletive or wh-trace) must occupy each and every Comp position intervening between the wh-expletive in the +Q Comp and the partially-moved wh-phrase. In German this is actually not *strictly* true and the facts are somewhat more complicated. Essentially it is the Comp of every *tense domain* intervening between the highest (tense domain) containing the +Q Comp and the lowest containing the real wh-phrase that must be filled by some wh-element. In German a tense domain comprises a tensed clause and any

additional dependent clauses (complement clauses selected by the tensed verb) that are either non-finite *or* 'tense-dependent', where a tense-dependent clause is one in which the tense of the verb in this clause is dependent or conditioned/determined by the tense of the verb in the higher clause; verbs such as *wollen*-want induce tense-dependency, while *glauben*-believe, *sagen*-say etc do not (as already mentioned in footnote 6). In 54 below, the intermediate clause CP2 will form a single tense domain with the matrix CP1, the tense on *sage*-say being dictated by the verb in CP1; CP3 by way of contrast will constitute a tense domain independent of CP1/CP2, tense on *gekommen ist*-has come not being uniquely determined by the verb which selects this clause (*sagen*-say):

(54) [$_{CP1}$Was will Hans [$_{CP2}$dass ich sage [$_{CP3}$warum er zu spat gekommen ist]]]
WH wants Hans that I say why he too late come has
Why does Hans want that I say that he came too late?

In a structure of this sort, where CP2 comprises a single tense domain with CP1, it has been observed that an intermediate wh-expletive need *not* fill its Comp position linking the wh-expletive in CP1 to the partially-moved wh-phrase in CP3 (though where CP2 is 'tense independent' of CP1 a wh-expletive *must* be present, as shown earlier). Not only need such a wh-expletive not occur in SpecCP2, it *may not* occur here either:

(55) ?*[$_{CP1}$Was will Hans [$_{CP2}$was ich sage [$_{CP3}$warum$_i$ er t_i zu spat gekommen ist]]]?

Thus the positions in which a partially-moved wh-phrase and a wh-expletive may occur are observed to be directly dependent on this notion of tense domain.[21] The interaction of tense and PM can further be seen below in

[21] Although Hungarian does not appear to make any distinction between tense dependent and tense independent finite verbs, PM in this language can still be argued to be critically sensitive to the notion of tense domain, as in German. A tense domain in Hungarian will comprise a tensed clause and any dependent non-finite clauses, with all the basic patterning observed in German also being present relative to these tense domains (e.g. the Comp of every tense domain between that containing the +Q Comp and that where the real wh-phrase occurs

different form; where an embedded CP is tense-independent on a higher CP, the PM + wh-expletive strategy may be employed (56), but where the lower CP is tense-dependent (57) (or an infinitive) it may not:

(56) Was glaubst du, was$_i$ er t_i gekauft hat?
WH believe you what he bought has
What do you believe he bought?

(57) *Was willst du, wen$_i$ er t_i besticht?
WH want you whom he bribes
Who do you want him to bribe?

There is therefore some kind of 'antilocality' effect here (to be re-considered at a later stage) which again relates to tense-(in)dependency and tense domain.

Wh-expletives essentially seem to perform some kind of 'linking' function, between a wh-phrase partially-moved to the Comp of one tense domain through the Comp(s) of any intermediate tense domain(s) to the +Q Comp in the highest tense domain. As 57 shows, PM and wh-expletive may not occur *within* a *single* tense domain, while 54/55 indicate that a wh-expletive may *only* occur when actually linking *genuine* adjacent tense domains.

Having thus established that the notion of tense domain has some as yet undefined relevance for partial movement structures, and having noted again that wh-licensing in Iraqi Arabic/Hindi is restricted to occurring *within* a tense domain in those languages, we are now in a position to reconsider the possible motivation for partial movement itself. The significance of PM to a *SpecCP* position may be interpreted in (at least) two possible ways; one is to suggest, as Horvath 1995 does, that such raising brings the wh-phrase to a specifier position from which it may percolate its wh-features to the clausal node; however, another possible approach is also to argue that the movement takes place in order to bring the wh-phrase to a position *external* to the *TP* of its

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partially-moved must be filled by a wh-expletive, and wh-expletives need and may not occur in the Comp of intermediate non-finite clauses, just as they may not in the Comp of tense-dependent clauses in German - examples 42/44).

clause. If a tense domain is essentially defined relative to the projection of tense, hence TP, then a SpecCP position can plausibly be argued to lie outside of a tense domain constituted by TP. Partial Movement of a wh-phrase to SpecCP will then actually be movement from a lower tense domain into a higher one. Recall again the fact that wh-phrases in Iraqi Arabic/Hindi may only be licensed in the tense domain in which the +Q Comp occurs, or to put it otherwise, the licensing domain of a +Q Comp in Iraqi Arabic/Hindi is its tense domain. If a wh-phrase is not base-generated in such a licensing domain then it must move into one (prior to Spell-Out) in order to be licensed. This may seem to be precisely what is taking place in German and Hungarian PM questions - a wh-phrase in need of licensing is arguably forced to undergo raising from its base-generated position in a lower tense domain into that of the +Q Comp. If such raising is then taken to be for licensing of the wh-phrase in the tense domain of the +Q Comp, as in Iraqi Arabic and Hindi, this would however appear to conflict with earlier claims that the wh-licensing domain of a +Q Comp in German is the entire sentence-internal c-command domain of a +Q C and not just its immediate tense domain. One could therefore attempt to suggest that in *wh-expletive* questions in German and Hungarian the wh-licensing domain of a +Q Comp is *not* in fact the same as in regular wh-questions, that the occurrence of a *wh-expletive* as opposed to a full wh-phrase in Comp has a direct effect upon the licensing locality of Comp, actually altering and *reducing* it to the immediate tense domain containing the +Q Comp. Consequently, where a wh-phrase is base-generated in a lower clause not within the tense domain of a +Q Comp filled by a wh-expletive, it will be forced to undergo movement into this domain for licensing, raising to SpecCP of the lower clause effectively making the wh-phrase 'visible' (for licensing) within the immediately dominating tense domain.

There is in fact further good independent evidence to support such a hypothesis, that the wh-licensing domain of a +Q Comp may be dictated and altered by the occurrence of an element of a certain type in Comp. This relates to *wh-expletive* questions in Iraqi Arabic and Hindi. While a wh-phrase within a tensed complement clause may normally not be licensed by the +Q Comp of an immediately dominating clause in either Iraqi Arabic or Hindi, if a wh-

expletive-like element *sh-/sheno* in Iraqi Arabic (*kyaa* in Hindi)[22] occurs in the +Q Comp, then a wh-phrase *is* free to occur in situ in such an embedded clause:

(58) *Sh*-tsawwarit Mona [Ali raah *weyn*]?
WH-thought Mona Ali went where
Where did Mona think that Ali went?

It should be noted that the presence of the wh-element is not required in the +Q Comp to satisfy any strong operator feature - in other wh-questions no such element or wh-phrase need occur here. Rather, all such an element appears to do is to alter the domain in which a wh-phrase may be licensed, this altered domain being further defined directly relative to the notion of tense domain - any wh-phrase within the tense domain immediately below that in which the +Q Comp (filled by the wh-expletive) occurs will be licensed, but wh-phrases in tense domains lower than this will not:

(59) *Sh*-tsawwarit Mona [$_{CP2}$meno rada [$_{CP3}$Ali ysa'ad *meno*]]?
WH-thought Mona who wanted Ali to-help whom
For which x, for which y, Mona thought x wanted to help y?

(60) **Sh*-i'tiqdit Mona [$_{CP2}$*meno* tsawwar [$_{CP3}$Ali sa'ad *meno*]]?
WH-believed Mona who thought Ali helped whom

In 59, CP2 and CP3 constitute a single tense domain, the verb in CP3 being non-finite (so a wh-phrase in CP3 will be licensed), while in 60 CP3 is a tense domain independent from CP2, its verb being tensed (hence a wh-phrase in this CP will not be licensed).

The suggestion that an element may become 'visible' within a higher clause as a result of movement to (a lower) SpecCP is also borne out by evidence relating to the licensing of anaphors - an anaphor contained within

[22] *Sheno* is homophonous with the word for what in the Iraqi Arabic, *sh-* being a reduced form. Hindi *kyaa* is also homophonous with what.

a wh-phrase raised to Comp may be bound and licensed by an antecedent in the higher dominating clause:

(61) John$_i$ wondered [$_{CP}$[which pictures of himself$_i$]]$_k$ Mary had discarded t$_k$]

Raising to SpecCP will bring the wh-phrase external to the lower TP in terms of whose tense the Governing Category of the anaphor may otherwise be (at least partially) determined.

Despite its initial plausibility however, the hypothesis that the occurrence of a wh-expletive alters and reduces the licensing domain of a +Q Comp in German, forcing partial wh-movement into its tense domain, cannot in fact be maintained for fairly simple reasons. On the basis of strong evidence from a variety of languages we have been arguing and assuming that *all* wh-phrases carry wh-features in need of licensing. *If* it were to be the case that the wh-licensing domain in German wh-expletive structures is restricted to the tense domain containing the +Q Comp, one should then expect that *all* wh-phrases licensed by the +Q Comp would need to occur within this domain. Nevertheless, in wh-expletive structures only a *single* wh-phrase is required to undergo partial movement to the SpecCP of a lower clause and secondary occurrences of wh-phrases may remain in situ within the lower clause/tense domain, as illustrated in 62 below:

(62) Was glaubst du [*wann*$_i$ Hans t$_i$ *an welcher Universitat* studiert hat]?
WH believe you when Hans at which university studied has
When do you believe that Hans studied at which university?

If the wh-licensing domain in 62 were to be the higher tense domain, then it is clearly expected that both *wann* and *an welcher Universitat* would have to undergo movement into this domain for licensing, yet the latter is fully well-formed in situ.

3.2 Partial Movement for triggering of a +Q Comp

The occurrence of a wh-expletive in a +Q Comp in languages like German and

Hungarian thus cannot be said to alter the general *wh-licensing domain* for wh-phrases. Essentially wh-expletive questions appear to be significantly similar to regular, non expletive wh-questions in that in *both* question types it is just a *single* wh-phrase that is required to undergo (some form of) movement. This movement in wh-expletive questions cannot be motivated by the need to check any non-wh focus type feature and must bring the wh-phrase into a specific position where some relation with other structurally higher wh-elements is established, creating a 'linking' to the +Q Comp. The fact that partial wh-movement is then necessitated by the need to form a relation with a +Q Comp (hence is related to and motivated by wh-interrogative features) taken together with the observation that partial movement affects a single wh-phrase only in multiple wh-questions, as in non- wh-expletive structures, strongly suggests that *partial* wh-movement actually takes place for the same reasons that *full* wh-movement (to a +Q Comp) does, in the case of languages like German and English to establish a clause as a wh-question and trigger Comp as a licensor for all wh-phrases in its domain. However, as partial wh-movement obviously does not bring the real wh-phrase into the specifier of the +Q C, the mechanism by which such a Comp is triggered as a wh-licensor must necessarily be somewhat different from that in non-wh-expletive questions.

Initially one might expect that raising of a wh-expletive alone to a +Q Comp should result in the triggering of this C as a licensor (for other wh-elements), yet the need for some secondary partial movement of a real wh-phrase indicates that this cannot be so. Effectively it appears that PM/expletive questions are well-formed wh-questions only in virtue of movement of both expletive and real wh-phrase, that it is the *combination* of their occurrence which gives rise to a wh-question in which all wh-phrases are formally licensed. We suggest that the wh-expletive must therefore be 'defective' in some way, not being able to trigger a +Q Comp as a full wh-phrase may, and that only if a real wh-phrase is found within a certain locality (the result of partial movement) will the status of the clause as a wh-question actually be induced. In this sense the wh-expletive can informally be thought of as carrying a 'promisory note' indicating that an element of the type which does have the potential to formally establish the +wh-interrogative status of the clause will be found in some adjacent domain.

The main problem with proposing that such partial wh-movement results in the +Q Comp licensing the wh-phrase is obviously that the wh-phrase is not raised directly into the Spec of the +Q C. We have assumed that the strict locality of a spec-head relation is necessary for a wh-element to trigger a C^0 as a licensor. However, suppose that such locality is neither immutably fixed nor universal; *generally* in languages like English and German a wh-phrase must occur in the Spec of a +Q C in order to establish the C as a licensor for all wh-elements in its domain, or to phrase it in a different way a +Q C must find a wh-phrase in the (strict) locality of its Spec in order to become a wh-licensor. In the case of wh-expletive questions it could be argued that this strict locality requirement is altered due to the occurrence of the wh-expletive in Spec of the +Q C, so that as long as some wh-phrase is found within a certain wider locality then the +Q Comp will be determined as +wh. Although not having the potential itself to directly trigger the +Q Comp as a wh-licensor, the wh-expletive does alter the locality/'catchment area' in which the occurrence of a real wh-phrase will suffice to determine the +Q Comp as such a (wh-)licensor. The wh-expletive then performs something approaching a 'stalling function', not being able to directly satisfy the relevant/required property of the +Q C ('deficient' in this sense), but enabling this property to be satisfied by an element outside of the general Spec-head locality (yet also necessarily within *some* notion of a domain, hence requiring partial movement).

In chapter two we argued that there is strong evidence for assuming that a relation between two elements involving licensing/features need not necessarily be as 'strictly' local as the Spec-head/head-adjoined configurations proposed in Chomsky 1993/95. There appears to be variation across languages in terms of the locality in which such relations may be licensed. Here we suggest that the relation between a +Q Comp and a wh-phrase which results in the former becoming a licensor for all wh-phrases in its domain may also naturally be subject to certain variation in terms of locality. Generally in German/English a substantive (i.e. non-expletive) wh-element must occur within the locality of SpecCP to a +Q Comp in order for the triggering potential of the wh-phrase to successfully interact with the +Q Comp, determining it as +wh. However, where a wh-expletive appears within the Spec of a +Q C, this locality requirement is altered, just as wh-expletives have the potential to alter

other wh-*licensing* domains in Iraqi Arabic and Hindi, and a substantive wh-element may be found within a wider (though still restricted) domain for determination of the +Q C as +wh. Partial movement of a real/substantive wh-phrase is then necessary in order to bring it into this domain; such partial wh-movement, as full wh-movement in non-expletive wh-questions, is triggered by needs of the wh-phrase itself and so does not violate Greed (or any similar analogue) - only if the +Q C is determined as +wh will the wh-phrase be licensed (as per chapter two), and only if the wh-phrase raises into the domain of the +Q C will this determination as +wh be effected. The immediate result of partial movement is then that the wh-phrase is licensed in its Spell-Out position in the -Q Comp and therefore (contra Chomsky 1993/95) *not* necessarily in the Spec of a +Q C, as argued previously.[23]

Concerning the actual position raised to by the (partially-moved) wh-phrase, it has been indicated that this is clearly dictated by the notion of tense domain (in a similar way that wh-licensing in Iraqi Arabic and Hindi is). The Comp of every tense domain intervening between the +Q Comp and the clause in which the wh-phrase is base-generated must be filled by some wh-element, either a wh-expletive, the wh-phrase itself or a trace of the latter, establishing a linking of adjacent tense domains (rather than *necessarily* mirroring the path that might be taken by Successive Cyclic (long) Movement of a wh-phrase to the +Q Comp). It may either be suggested that raising to SpecCP of a lower clause does actually bring a wh-phrase into a higher tense domain (that of the +Q Comp) as suggested earlier, so that a substantive wh-phrase must indeed occur *within* the tense domain of the +Q Comp in order to trigger it as +wh, or it could be argued that raising to a position at the clausal periphery of a lower tense domain, while still technically being inside this lower tense domain, also makes a wh-phrase *visible* to (elements in) a higher one. In either case partial movement appears necessary to attain a local relation to the +Q Comp that is

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[23] There can in fact be no further LF movement of the wh-phrase (or a CP containing the wh-phrase) if ideas in Chomsky 1995 are adopted. There it is implicitly suggested that *all* wh-related feature-checking movement will necessarily take place in the overt syntax, hence that there will be no such wh-movement at LF. This is due to the dual claims that +interpretable features such as *wh* should *only* be in need of checking if strong, and strong-features may not be introduced into the derivation after Spell-Out (for various reasons). Any strong wh-operator features that might then induce movement for checking must therefore be present (and immediately checked) *prior* to Spell-Out and no LF wh-movement will take place.

indeed dependent on potential visibility to the +Q Comp in its containing tense domain.

3.3 Movement of wh-expletives

We now turn to consider movement of the wh-expletives in PM questions; in particular, precisely what triggers movement of these elements is in need of explanation. Wh-expletives can be argued to carry +wh-interrogative features in need of licensing, as the only environment in which they may legitimately occur is that of a wh-question; movement of wh-expletives may therefore justifiably be motivated by the self-serving need of such elements to attain licensing, in the following way. Wh-features on a wh-expletive will require licensing in the same way that those of any substantive wh-phrase do - via occurrence within the licensing domain of a +wh+Q Comp. Such a wh-licensing domain will however only be created if a +Q Comp is first triggered as +wh, this generally requiring the presence in Spec of the +Q Comp of a substantive wh-phrase with the potential to trigger the C^0 as +wh. In PM structures, if the wh-expletive does *not* undergo movement to the +Q Comp and no wh-element at all occurs in its Spec, then the +Q Comp will not be triggered as a licensor for *any* wh-element, either substantive wh-phrase or wh-expletive. The only way in which a wh-expletive may thus itself be licensed is if it raises to Spec of the +Q Comp, not directly triggering the latter as +wh, but altering and extending the locality in which the occurrence of a substantive wh-phrase will result in determination of the +Q Comp as +wh. Once the +Q Comp has then been triggered as +wh, the wh-expletive (and all other wh-elements present) will successfully be licensed/have their wh-features checked. Thus movement of the expletive is indeed motivated by its own licensing requirements.

A few words need also now be added concerning *multiple* expletive PM questions. The raising of a wh-expletive to a +Q Comp has been claimed to alter the locality in which a substantive wh-phrase may occur to trigger the Comp as +wh, so that if the wh-phrase appears in Comp of the *adjacent* tense domain, triggering of the +Q Comp will be successfully effected. In well-formed multiple expletive structures such as 63 below, the substantive wh-phrase has not raised to such a position however, and instead a second wh-expletive occurs

here:

(63) Was glaubst du, **was** er meint, wen Hans gesehen hat?
WH believe you WH he thinks whom Hans seen has
Whom do you believe he thinks Hans saw?

This intermediate wh-expletive will not immediately satisfy requirements of the +Q Comp (that it be fully determined +wh by a wh-phrase), as wh-expletives do not carry the potential to trigger a +Q Comp as +wh. However, as with expletives raised to a +Q Comp, it can be argued that the occurrence of an intermediate expletive in a -Q Comp has a (further) effect upon the locality in which a substantive wh-phrase need be located, extending it again to the adjacent tense domain. When a substantive wh-element is not located within the tense domain immediately adjacent to the +Q Comp but rather a wh-expletive, the 'search' is not terminated (with the +Q Comp defaulting to a yes/no question specification and all wh-elements causing the structure to crash due to failure of licensing), but the critical locality is enlarged to include the following tense domain where a wh-phrase may indeed be found. As with raising of a wh-expletive to the +Q Comp, movement of the intermediate wh-expletive is effectively self-serving - the wh-expletive will only be licensed if it occurs in the domain of a +Q Comp triggered as +wh, and only if the expletive raises to extend the locality in which a real wh-phrase may be located for such triggering will the +Q Comp be determined as +wh and in turn licence the expletive itself.

3.4 Triggering and Licensing Domains

The consideration of Partial Movement questions and the observed interaction between wh-expletives and substantive wh-phrases may now lead to a possible revision of claims made in chapter two concerning why wh-movement to the Spec of a +Q C is forced in certain languages but not others. There it was suggested that wh-movement takes place in order to determine an ambiguous +Q Comp as +wh. In languages such as Chinese and Iraqi Arabic by way of contrast, it was argued that a +Q Comp may be unambiguously specified as

+wh without the need for any triggering, by hypothesis due to the availability in the language of a +wh+Q morpheme inserted from the lexicon (this receiving optional phonetic interpretation in Chinese as *ne*). Certain aspects of PM questions may however indicate that a somewhat different view can be adopted. Perhaps the most unexpected and surprising 'fact' about PM questions is that an unambiguously-*wh* expletive element raised to Comp arguably does not seem able to perform the function that a (real) wh-phrase otherwise may - i.e. establish a clause as a wh-question (or check strong wh-operator features on a +Q C^0 in a standard Minimalist account). In addition to the wh-expletive a single substantive wh-phrase must also undergo raising and occur in some local relation to the +Q Comp to formally determine a clause as a wh-question.

If it is then the case that functional elements unambiguously specified as +*wh* do *not* have the potential to disambiguate and determine a +Q Comp as +wh in certain languages, one might conclude that *generally* such elements are not able to trigger a +Q Comp as +wh, hence that the +wh+Q morpheme inserted into C^0 from the lexicon in Chinese (and other languages) actually does not perform any direct Comp-triggering function. Supposing this to be true (and there really is no obvious reason why +wh functional elements in some languages should have any greater disambiguating/triggering potential than those in other languages where all are *clearly* identifiable as +wh), then a +Q Comp will always require triggering by a *substantive* wh-phrase occurring in some local relation to the Comp. The difference between Chinese and German (for example) will then no longer be a question of Comp in Chinese being specified as unambiguously-*wh* in virtue of a +wh-morpheme inserted into C^0, with Comp in German requiring triggering by movement of a substantive wh-phrase; rather, languages will differ only in the locality in which a substantive wh-phrase must be located relative to Comp for it to be determined as +wh and licence all wh-elements within its domain. In German, in the absence of a wh-expletive, a substantive wh-phrase will have to occur in Spec of the +Q C to trigger it, while when a wh-expletive appears the relevant triggering locality will be altered to that of the tense domain of Comp. In Iraqi Arabic, a wh-phrase must appear somewhere within the tense domain of the +Q Comp, or, if a wh-expletive occurs, in the immediately adjacent tense domain. Chinese

by way of contrast might seem to allow for the occurrence of a wh-phrase in almost any sentence-internal position to satisfy triggering of Comp (this observation having led to our earlier conclusions that Comp in Chinese may be 'inherently' +wh and not require disambiguation).

It can then be argued that there are actually two notions of local domain relevant in wh-questions. The first is the above-mentioned locality in which a substantive wh-element must occur relative to the +Q C in order for the latter to be determined as +wh, which may be called the 'triggering domain'. There is also a 'licensing domain' - the locality within which *any* wh-element must occur (again relative to the +Q Comp) in order to be licensed. Such domains may or may not coincide; in German they will not, as secondary wh-phrases need not occur as local to the +Q Comp as the wh-phrase which determines it as +wh, either in regular multiple wh-questions or PM/expletive structures. In Czech, Serbo-Croat and Polish they will also not coincide - secondary wh-phrases must only be IP-adjoined whereas the initial triggering wh-phrase must occur in Spec of C. However, in other languages the triggering and licensing domain may in fact appear to be the same e.g. Iraqi Arabic where not only a triggering wh-phrase but all wh-elements must occur within the tense domain of the +Q C (or in the tense domain adjacent to it if a wh-expletive is present in Comp), and Romanian and Bulgarian, where all wh-phrases must occur in Comp (and not IP-adjoined as Czech etc). Chinese will fall into this latter category too, with no observed difference regarding where a primary triggering and other secondary wh-phrases may appear, while Japanese does show such differences and hence will be a further example of a language with non-coincidence of licensing and triggering domains. An additional consequence for Japanese of assuming such a modified approach is also that it is no longer necessary to assume any empty operator movement. This movement was assumed in order to account for the difference in distribution among wh-phrases (see chapter two); however, if there are two distinct notions of locality and domain relating to triggering and licensing as suggested, then one may argue that the triggering wh-phrase simply need occur somewhere within the triggering domain of Comp (which is different to that of its licensing domain) and that no actual movement to Comp is required.

4.0 Further issues: antilocality in wh-expletive structures

Having outlined how the various movements of wh-expletive and wh-phrase may be motivated in a way which is indeed consistent with general properties and requirements of wh-licensing as proposed in chapter 2, we now turn to consider how certain other restrictions on the formation of wh-expletive questions may be explained.

It has been claimed above that partial movement of a wh-phrase is necessary to bring such an element into a position in which it will be 'visible' to a Comp containing a wh-expletive; only if a wh-phrase occurs within a certain locality relative to the +Q Comp will it be able to trigger the latter as a licensor for (all) wh-elements in its domain. However, in addition to the requirement that the substantive wh-phrase occur within a certain tense-defined local domain, various other *anti-locality* effects have also been observed to obtain in wh-expletive questions in Hungarian and German. Although we have suggested that the visibility effect achieved via raising of the wh-phrase to SpecCP may be to bring the wh-phrase into the tense domain of the +Q C, other evidence appears to indicate the contrary, that a wh-phrase may *not* in fact occur this local to the +Q Comp, within its tense domain. For example, a wh-phrase may not appear in situ in a clause whose Comp is occupied by a wh-expletive (64), nor either in situ or partially-moved in an infinitival or tense-dependent CP complement of a clause whose Comp is filled by an expletive (65-68):

(64) *Was glaubst du was?
WH believe you what
Intended: 'What do you believe?'

(65) *Was glaubst du was gesagt zu haben?
WH believe you what said to-have
Intended: What do you believe to have said?

(66) *Mit akarsz kivel beszelni?
WH want who-with talk-inf
Intended: With whom do you want him to talk?

(67) *Was willst du dass er wen besticht?
WH want you that he whom bribe
Intended: Whom do you want that he bribe?

(68) *Was willst du, wen er besticht?
WH want you whom he bribe
Intended: Whom do you want that he bribe?

Such facts are very much in need of explanation if the general account of PM proposed above is to be successful. Examples such as 66 and 68 may in fact be quite easily accounted for, but the ungrammaticality of 64, 65 and 67 is somewhat unexpected. In 66/68 the wh-phrases should be visible within the relevant tense-defined domain of the +Q Comp *without* the need for any partial movement and so none should occur (by Economy). However, if the occurrence of a substantive wh-phrase within the tense domain of a +Q Comp occupied by a wh-expletive is sufficient for triggering of the +Q Comp as +wh, there may seem to be no immediately obvious reason why 64, 65 and 67 are ill-formed - although no partial movement takes place none is predicted to be necessary, the wh-phrases in their *in situ* positions should be sufficiently local to the +Q Comp to effect triggering. 64, 65 and 67 are also initially difficult to explain for any LF raising approach, there being no locality restrictions to bar movement to Comp.

There are two possible ways of explaining the ungrammaticality of such examples; one involves the straightforward admission of certain perhaps irreducible anti-locality constraints into licensing relations, the other rules out such structures for reasons of *case*.

To consider the first option, one might suppose that what 64, 65 and 67 indicate is that a wh-phrase may *not* in fact occur within the tense domain of a +Q Comp containing a wh-expletive. Although it was initially proposed that partial movement to SpecCP may raise the wh-phrase into a *higher* tense

domain, prospectively that of the +Q Comp, it may instead be the case that partial movement to a lower Comp simply makes the wh-phrase visible within the lower tense domain adjacent to that in which the +Q Comp occurs. Raising of a wh-expletive to a +Q Comp will change the triggering locality of this Comp, requiring that a substantive wh-phrase be found (visible) within an *adjacent* tense domain; such an alteration of the triggering locality of Comp might also bring with it a certain *anti*-locality, so that the wh-phrase may not in fact be found within the immediate tense domain of the Comp.

Similar pure antilocality effects have indeed been attested in other syntactic relations, so the suggestion that such restrictions might also occur in wh-licensing relations should not be taken as being extraordinary in any way. Here we may cite as examples the case of Negative and Positive Polarity Item licensing in English and Serbo-Croat, and that of the Greek anaphor *o idhios*. Positive Polarity Items (as per Ladusaw 1980) may not occur in the scope of *clausemate* negation (with narrow scope) but may be c-commanded by negation if occurring in some lower clause:

(69) #John did not see *someone*.

(70) John does not claim that he loves someone.

Fully parallel to English 69-70, Serbo-Croat also has distinct Positive Polarity Items, which may not appear in the scope of clausemate negation, but are free to occur in the scope of a superordinate negation or in positive contexts (see Progovac 1991 for examples). In addition to these PPIs, Serbo-Croat has two types of NPIs (again see Progovac 1991) - NI-NPIs (with a prefix *ni*) and I-NPIs (with a prefix *i*). The latter type are licensed when negation appears in a *superordinate* clause but never when negation c-commands the NPI in the *same* clause:

(71) Milan ne voli ni-ko-ga/*i-ko-ga.
Milan not loves anyone-acc
Milan does not love anyone.

(72) Mira ne tvrdi da *ni-ko-/i-ko voli Milan-a
Mira not claims that anyone loves Milan-acc
Milan does not claim that Milan loves anyone.

There is thus a clear antilocality effect that an element in need of licensing (the NI-NPI) may not appear within a certain local domain relative to this licensor, and in the case of the PPIs, that such elements are forced to occur outside the immediate clausal domain of a negative operator (though are still free to be c-commanded by such an operator if occurring in an adjacent clause)[24]. Iatridou 1986 has also noted a similar antilocality effect obtaining with the Greek anaphor *o idhios*, which must be free in its governing category, but bound within the sentence:

(73) O Yanis pistevi oti o idhios tha kerdhisi.
John believes that himself will win.

(74) *O Yanis aghapa ton idhio.
John loves himself.

Thus it is possible that the unacceptability of 64, 65 and 67 reduces to a parallel case of antilocality induced by the presence of a wh-expletive in the licensing Comp - the wh-phrase must be located visible within an adjacent tense domain but not more locally than that (i.e. not within the tense domain of the +Q Comp).

A second potential explanation of the apparent antilocality obtaining between wh-expletive and wh-phrase may be given in terms of Case. Horvath 1995 points out that the occurrence of partial movement and wh-expletives in

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[24] One might also mention the apparent antilocality observed in the licensing relation between verbs like doubt and NPIs in English:

(i) I doubt that Mary insulted anyone.
(ii) *I doubt anything.

Even if one attempts to account for the antilocality effect present in such examples with the suggestion that the NPI in (i) is actually licensed by a negative-Comp selected by doubt and that such a Comp is not present to licence the NPI in (ii) (as per proposals in Laka 1990), the antilocality of the other cases given here is not so readily accounted for.

Hungarian seems to be possible only in those cases where parallel non-wh-expletive structures are also well-formed, e.g. PM is not possible in infinitives with a wh-expletive raised to Comp (cf. 66 above), and the pairing of an object non-wh expletive with an infinitival CP associate is found to be unacceptable too:

(75) *Szamitok ra [beszelni a gyerekekkel]?
count-1sg it-subl talk-Inf the-kids-with
'I count on it to talk to the kids.'

When the embedded complement CP is tensed however, both wh- and non-wh expletive structures are possible. Similarly, although DP-internal wh-movement to SpecDP may take place in Hungarian, this giving rise to subsequent raising of the entire DP to Comp (76), it is not possible to construct partial movement type structures in which a wh-phrase raises DP-internally just to SpecDP and Comp is filled by a wh-expletive (77). This seems to parallel the impossibility of pairing DPs with non-wh expletives (78):

(76) [Kinek$_i$ a t_i feleseget]$_k$ lattad t_k?
who-dat the wife-acc saw-2sg
Whose wife did you see?

(77) *Mit lattad [kinek$_i$ a t_i feleseget]?
WH-acc saw who-dat the wife
Intended: Whose wife did you see?

(78) *Azt mondta [a maga velemenvet].
It-acc said-3sg the self opinion
Intended: He told (it) his own opinion.

Although Horvath does not attempt to offer any explanation for why such expletive structures generally should be ill-formed (simply indicating the parallelism between wh- and non-wh expletive cases), given that it has been convincingly demonstrated that wh-expletives are case-marked (non-wh

expletives also showing parallel inflections), one may argue that the unacceptability of these cases reduces to simple failure of an element to be case-marked/checked. In examples such as 77/78 and 64 repeated below, both expletive and DP require case-marking/checking but only one objective case(-checking position) is available in the clause:

(64) *Was glaubst du was?
WH believe you what
Intended: 'What do you believe?'

The unacceptability of examples like 64 is then perhaps not really a question of any *anti*-locality, but rather related to (failure of) case-checking.

If the unacceptability of examples like 64 is due to case reasons and not indeed a general ban on wh-expletive and wh-phrase occurring within the same clause (or tense domain), one might expect that a *subject* wh-phrase might co-occur in the same clause as a wh-expletive bearing *objective* case, i.e. the occurrence of a subject wh-phrase checking case in SpecAgrS should not interfere with the case-checking of a wh-expletive in SpecAgrO. However, such structures are also ill-formed:

(79) *Was glaubt wer, wo er hingegangen ist?
WH believe who-Nom where he went aux
Intended: Who believes he went where?

One might therefore doubt that 64 is ruled out for case reasons alone and assume that a pure antilocality account is necessary. However, examples like 79 can be argued to be unacceptable for quite independent reasons, being Superiority Violations (ruled out by Shortest Move and Economy) - the subject wh-phrase rather than the object wh-expletive should move to Comp (movement from SpecAgrS being closer than from SpecAgrO). An alternative configuration in which a Superiority Violation is avoided, with movement to Comp of the subject as in 80, also proves to be ungrammatical; however, it will again be possible to argue that such structures are ill-formed for other case-independent reasons (see 4.1 below) and so the case-based explanation of 64

may in fact be maintained:

(80) *Wer glaubt was, wo er hingegangen ist?
who-Nom believe WH where he went aux
Intended: Who believes he went where?

Additional support for the hypothesis that wh-expletives generally require case-checking may come from the observation of certain other wh-expletive structures in Hungarian; where a predicate does not check/assign any objective case, partial movement structures involving an *adjunct* CP are still possible via the use of a *non-case bearing* wh-expletive *miert-why*:

(81) Miert vagy duhos [mert kivel$_i$ talalkoztal t_i]?
why be-2sg angry because wh-with met-2sg
Which x, x a person, you are angry because you met x?

In 81 it would not be possible to substitute a wh-expletive such as *mit-what* for *miert-why*, as *mit* would (crucially) require case-checking, whereas *miert-why* does not.

A case-based approach will also account for the fact that partial movement is *not* possible within CNPs, although being quite acceptable in other typical island configurations (e.g. SubjectCPs, adjunct CPs):

(82) *Mit hallottal [a hirt hogy kivel$_i$ talalkozott Mari t_i]?
WH-acc heard-2sg the news-acc with-whom had Mary met
Which x, x a person, you heard the news that Mary met with x?

82 is arguably ill-formed not because of any locality violation linking the wh-phrase and the +Q Comp induced by the island structure, but simply because either the wh-expletive or the (C)NP will not be case-checked.

Case-checking requirements of wh-expletives in German/Hungarian further explain why a wh-expletive present in the numeration is not *merged* into the lower SpecCP position that is otherwise *moved* to by the substantive wh-phrase, i.e. why we do not attest examples like (83) or (84):

(83) *Was glaubst du, [$_{CP}$was Hans wen gesehen hat]?
WH believe you WH Hans whom seen has

(84) *Was$_i$ glaubst du [$_{CP}$t$_i$ Hans wen gesehen hat]?
WH believe you Hans whom seen has

Chomsky 1995 suggests that the operation of Merge is economically cheaper than Move, so that an expletive such as *there* is merged into SpecTP to satisfy the EPP rather than movement of another DP to this position:

(85) There$_i$ seems [t$_i$ to be a man in the garden].
(86) *There seems [[a man]$_i$ to be t$_i$ in the garden].

Although merging of an expletive into the lower SpecCP in 83 and 84 should then be more economical than movement of the wh-phrase to this position, 83 and 84 are actually unacceptable (as opposed to 85). 83 and 84 may be excluded because the expletive needs to check case in the lower clause and therefore cannot be merged directly into SpecCP (to satisfy whatever properties one does attribute to movement of the wh-phrase to this position).

Such considerations of Case may also lead one to a typology of wh-expletives and allow one to predict certain differences among languages. The interrogative element occurring in a +Q Comp in languages like Japanese (*ka*) and Chinese (*ne*) may be considered to be of the same basic type as *was* in German or *mit* in Hungarian - an uninterpreted functional expletive element. However, in these languages no anti-locality effects of the type seen to occur in Hungarian/German are attested, so that an expletive may freely co-occur with a wh-phrase in the same clause/tense domain:

(87) Tanaka-san-wa nani-o kaimashita ka?
Tanaka-top what-acc bought Q
What did Mr. Tanaka buy?

Wh-phrases may also occur in CNPs with the interrogative expletive in Comp of the same clause (vs. 82 above):

(88) Tanaka-san-wa [dare-ga kaita hon]-o kaimashita ka?
Tanaka-top who-nom wrote book-acc bought Q
Mr. Tanaka bought the book that who wrote?

This basic difference between Japanese/Chinese type interrogative expletives and those in Hungarian/German may be given simple explanation if the former do not carry case-features (in need of checking) while the latter do - in 87/88 it is *only* the wh-phrase *nani-o* and the CNP-object that require case-checking in SpecAgrO, the caseless expletive does not also have to raise through this position (and is perhaps base-generated in Comp itself). In this sense *ka* and *ne* would be wh-equivalents to *there*-expletives in English, while *was* and *mit* would parallel *it* - Chomsky 1995 arguing that a cluster of properties differentiating *it* and *there* expletive constructions (and analogues in other languages) may be accounted for under the assumption that *it* but not *there* requires case-checking[25].

Finally the impossibility of wh-expletives occurring with wh-phrases in situ within non-finite and tense dependent clauses needs to be accounted for, examples 89 and 67 below. Although perhaps not as straightforward to explain in terms of case as the single-clause examples considered above (64 and others),

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[25] If *was/mit* are wh-equivalents of *it*, and *ka/ne* of *there*, another interesting parallel in distribution may be observed, notably that with the former type multiple obligatory occurrences of the wh-expletive are found in a single structure, vis i. and ii., whereas with the latter only a single token may be present, iii. and iv:

(i) **Mit** hitt Mari, [hogy *(**mit**) akartal [hogy kinek telefonaljunk]]?
WH-acc believed Mary that WH-acc wanted-2sg that who-dat phone-2pl
To whom did Mary think that you wanted that we phone?

(ii) **It** seems that *(**it**) is certain that John has left.

(iii) John-wa [Mary-ga nani-o katta (***ka**) to] iimashita **ka**
John-top Mary-Nom what-acc Q C said Q
What did John say that Mary bought?

(iv) **There** appears (***there**) to be a man in the garden.

It could perhaps be argued that in both i. and ii. multiple expletives are present because all case *must* be assigned/checked - having checked case in the intermediate clause neither wh- nor non-wh expletive will be able to check case again (in SpecAgrO and SpecAgrS respectively) in the matrix, hence two independent case-bearing expletive elements are necessary. Why multiple non-case-bearing expletives are not *possible* (as in iii and iv) is still rather puzzling (though a suggestion is offered in Chomsky 1995); however, the parallel in behaviour is in itself interesting and suggests that a common solution may be in order.

one might argue that the unacceptability of these multi-clausal structures may also be reduced to failure of case-checking, under the assumption/hypothesis that no case is assigned by the matrix embedding verb in these configurations. Chomsky 1995 (section 5.6) argues that verbs such as *want* do not *optionally* assign case, but that there are essentially two lexical entries for such predicates, one in which an IP is selected by the verb and it has no case-assigning potential (want [to go]) and another where a DP object is selected and the verb does have case to assign (want the book). Chomsky suggests that there are principled reasons for assuming that if any -interpretable features such as case remain unchecked at the end of a derivation then this will cause the derivation to crash; therefore a verb may not optionally assign case - if case-assignment is a property of a verb, such case *must* necessarily be checked. In light of this one might claim that verbs such as *wollen* when selecting any clausal complement have no case-assigning potential (as opposed to when selecting a DP object); as a result no AgrOP will be projected and the wh-expletive will not be able to check its case, predicting the ill-formedness of the relevant examples:[26]

(89) *Was willst du [was kaufen]?
WH want you what to-buy
Intended: What do you want to buy?

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[26] Though more work is plainly needed on the impossibility of expletives and non-finite object clauses, vis:

(i) *I_i want [it to PRO_i go]. (expletive interpretation of *it*)
(ii) *I_i want [there to PRO_i go].

If an overt exceptionally case-marked subject may appear in IP complements of *want* (as in: 'I want him to go'), there is no obvious reason why expletive *it* should not be possible here, and if alternatively case is not assigned by the verb, then a *there* expletive should be possible in SpecIP of the infinitival (as *there* arguably does not require case-checking). Chomsky 1995 has no immediate explanation for the unacceptability of expletives in these environments. However, one might adopt his suggestion that certain categorial features of expletives require deletion via the covert raising of features carried by an associate element, noting that when an appropriate associate is present the structures are well-formed:

(iii) I want [it to seem [that he really likes the voters]].
(iv) I want [there to be a meeting tomorrow].

(67) *Was willst du dass er wen besticht?
WH want you that he whom bribe
Intended: Whom do you want that he bribe?

4.1 The clause-boundedness of wh-expletives

Having thus provided two possible general explanations for (additional) restrictions on where the substantive may occur in partial movement/wh-expletive structures, we now consider certain restrictions on the wh-expletive. What needs to be explained is: a) why in multi-clausal PM structures in German an overt wh-expletive must occur in each successive (tense) cyclic Comp positions (90) and it is not possible for a single wh-expletive to move from a lower clause cyclically through intervening Comp positions to the +Q Comp of a higher clause as non-expletive wh-phrases may, and b) why the wh-expletive must occur *in Comp* even when an additional wh-phrase is present, i.e. why 80 repeated here with a wh-expletive in situ is unacceptable:

(90) Was glaubst du, *(was) er meint, wo Hans hingegangen ist?
WH believe you WH he thinks where Hans went aux
Where do you believe he thinks Hans went?

(80) *Wer glaubt was, wo er hingegangen ist?
who-Nom believe WH where he went aux
Intended: Who believes he went where?

Considering 80 first, one may argue that if a full substantive wh-phrase is raised to the +Q Comp triggering this as +wh, there should be no reason for partial movement of the secondary wh-phrase to take place. Partial movement is only necessary where a wh-*expletive* occurs in a +Q Comp, a lower wh-phrase having to raise to a position where it is visible to the +Q Comp occupied by the wh-expletive to determine it as +wh. In 80 full triggering of the +Q Comp is effected by the substantive wh-phrase wer and so no partial movement is required, hence none should take place (by Economy). One then might expect that a variant form of 80 with the secondary wh-phrase in situ (and no partial

movement) would be well-formed; however, as 91 shows, this is equally unacceptable:

(91) *Wer glaubt was, dass er wo hingegangen ist?
who-Nom believes WH that he where went aux

One could suggest that examples like 91 are ill-formed because the wh-expletive is redundantly present in such structures, performing no function at all and therefore unlicensed, violating the Principle of Full Interpretation; possibly wh-expletives must fulfil their role of altering the triggering locality of a +Q Comp in order to be licensed as legitimate syntactic objects. An alternative and perhaps more promising explanation, we believe, may be that wh-expletives in German are (wh-)*clitics* which need to attach to a Comp-host for PF-related reasons. They will therefore always be forced to undergo raising (to Comp) and may not occur in situ, as in 80 and 91. In Iraqi Arabic there is actually phonological support for such a proposal; the equivalent wh-expletive derived from the homophonous word for 'what' *sheno* reduces to *sh-* and cliticizes to the verb (which one may assume to be raised to Comp):

(92) *Sh*-tsawwarit Mona [Ali raah weyn]?
WH thought Mona Ali went where
Where did Mona think that Ali went?

If this is correct, we also have a potential explanation for 90 which otherwise remains rather puzzling. As wh-phrases normally may undergo long, unbounded movement (vis 93), it is not immediately clear why a wh-expletive may not do so, raising from an intermediate clause through the Comp of each CP up to the +Q Comp and establishing a linking to the real wh-phrase (and extension of the triggering domain) via its traces. Forms such as 94 are not possible, however, and a wh-expletive must appear overtly in each successive Comp position (as in 90):

(93) Mit wem$_i$ glaubst du [t_i dass Johann dahin t_i gefahren ist]?
Who do you think that Johann went there with?

(94) *Was$_i$ glaubst du, [t_i dass er meint, [wo Hans hingegangen ist]]?
WH believe you that he thinks where Hans gone has

If wh-expletives are taken to be C^0-clitics though, the patterning in 90 and 94 and the unexpected boundedness of wh-expletive movement is easily accounted for - when raised to the Comp of an intermediate clause (as in 90) the expletive obligatorily cliticizes to its host C and will not be able to move further. Therefore independent, overt wh-expletives will need to occur in all Comps between the +Q C and that occupied by the partially-moved wh-phrase in order to extend the triggering domain as suggested.

Horvath suggests wh-expletives in Hungarian *may* in fact undergo successive cyclic movement, indicating that they are not clitics in this language:

(95) Mit$_i$ mondtal [hogy t_i tudnak/*tudjak [hogy melyik$_k$ fiut szereted t_k]?
what-ACC said-indef-2sg that know-indef-3pl/know-Def-3pl that which boy- ACC like-Def-2sg
Which boy did you say they know you like?

She argues that *mit* raises from the intermediate clause triggering indefinite agreement both in this clause and in the matrix (see section 1.1 for discussion) - 48 is ungrammatical if definite rather than indefinite agreement appears on the verb in clause 2, this indicating that there must be *some* wh-movement within the intermediate clause too. We would like to suggest however that wh-expletives are clause-bound clitics in Hungarian too, with the difference between 95 and German 90/94 being that Hungarian allows for optional phonetic deletion of intermediate wh-expletives whereas German does not. The reason for this argument is that theoretically it should not be possible for the wh-expletive *mit* in 95 to 'trigger' indefinite agreement in both matrix and intermediate clauses. As indicated in section 1.1, indefinite agreement must be associated with/checked in SpecAgrO, as only object wh-movement gives rise to it (examples 7,8,9). This being so a wh-expletive case-checked in SpecAgrO of the intermediate clause should not raise to a second SpecAgrO in a higher clause. If an AgrOP is projected in the matrix of 95 it must carry case-features

to be checked by an object DP; an expletive which has *already* checked case and agreement features in a lower SpecAgrO will *not* be able to move to check such case-features (again) in a higher SpecAgrO (case-features being - interpretable may only be checked by a DP in one position). Therefore it can be concluded *no* indefinite agreement should show up in the matrix clause (contra what is observed), this being parallel to the fact that wh-movement in French does not give rise to object agreement in any clause other than that in which a wh- or relativized object originates:

(96) la fille qu'il a dit(*e) que Jean a vue
the girl who he has said-fem.sg that John has seen-fem.sg

Furthermore, it is possible that the verbs in the matrix and intermediate clauses in examples similar to 95 may assign different types of objective case (i.e. accusative or inherent sublative); here the case on the wh-expletive will correspond to that assigned by the *matrix* predicate, indicating that it does not originate in SpecAgrO of the intermediate clause and then undergo successive cyclic long raising (otherwise it would carry the case assigned/checked in this SpecAgrO).[27] Consequently we suggest that in *both* matrix *and* intermediate clauses of 95 there occurs movement of a wh-expletive to Comp, just as in German, this checking indefinite agreement and objective case respectively in each clause. Hungarian will then allow for deletion of the phonetic matrix of the intermediate wh-expletive; in other respects however, the wh-expletives in both languages can be argued to be identical and their clause-bound nature explained as above.

The various complex restrictions on the occurrence of wh-expletives and perceived antilocality effects relative to substantive wh-phrases may thus in fact all be accounted for without the need for additional assumptions and via means already justified by other independent syntactic phenomena. We now conclude with a review of the main observations and claims of this chapter.

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[27] Also if case may not be optionally assigned, as per Chomsky 1995, and must always be checked, and if a single wh-expletive may only check case in one position, then in multi-clausal structures long-movement of a wh-expletive would prospectively result in the objective case assigned in higher clauses not being checked, and should cause the structure to crash. Hence a wh-expletive must be base-generated in each clause and may not undergo long-raising.

5.0 Summary

In this chapter we have highlighted and examined various serious theoretical problems relating to the triggering of movement and the locality of feature-checking that are raised by Partial Wh-Movement constructions in languages such as German and Hungarian. While Chomsky 1993/95 argues that elements undergo movement solely in order to establish an immediate checking relation with a functional head bearing equivalent matching features, with such checking relations occurring only within the locality of Spec-head/head-adjoined configurations, in the wh-expletive constructions considered it was found that certain wh-elements will obligatorily raise to the Spec of a *-Q* C head, hence to a position in which no checking relation is technically established. Such evidence clearly seems to question fundamental aspects of the mechanism of feature-checking outlined in Chomsky 1993/95. Further, given Chomsky's suggestion that the underlying motivation for (any) wh-movement is in order that strong wh-operator features on the *+Q* C^0 (and not any features carried by wh-phrases themselves) be checked, it is quite unexpected that secondary partial movement of a wh-phrase occurs in addition to that raising a wh-element to the +Q Comp. The latter movement operation alone should suffice to check strong operator features in Comp, and no additional wh-raising is predicted to occur.

In the course of the chapter we examined the general question of how any linking between the partially-moved wh-phrase and the +Q Comp might hypothetically be established. Various locality phenomena indicated that no LF *movement* chain could directly relate the two positions, and so the possibility of some *indirect* linking via an LF clausal-associate raising analysis was considered. However, such an account was still shown to suffer from the fundamental problem that *pre*-Spell-Out (partial) movement of the wh-phrase to a -Q Comp is forced; were checking of features on the wh-phrase to be necessary only at LF, via some clausal pied-piping operation, then partial movement of the wh-phrase should not need to take place overtly. We subsequently considered and discounted the possibility that PM might in fact be *focus* movement; PM clearly appears to be *wh*-related and must bring the wh-phrase into a certain tense-defined local relation to the +Q Comp. The data

of PM thus continually force one to an apparent contradiction: some *wh*-related formal licensing condition which must be satisfied prior to Spell-Out/PF triggers obligatory raising to a position in which checking/licensing of wh-features should not be possible according to Chomsky 1993/95.

The basic underlying licensing requirements that result in PM must nevertheless be assumed to be satisfied by such movement. As the movement has to create some specific kind of relation between a *+Q Comp* and a *wh*-phrase, one is forced to assume that certain *+wh*-interrogative properties are satisfied by the raising operation. If these properties are taken to be wh-features in need of licensing on the wh-phrase, one must then admit that a (wh-)feature checking relation is established between the (+Q) Comp of a higher clause and the SpecCP position of a lower clause, this *not* encoding the typical Spec-head locality commonly taken to be necessary for feature-checking. However, such a conclusion is precisely what was argued for in chapter two on the basis of quite independent data. We suggested that in certain languages the possibility of 'non-local' wh-feature-checking (i.e. outside of SpecCP) must be allowed for, and that in fact there may be a spectrum of variation with regard to what constitutes the wh-licensing locality of a language (i.e. the domain in which wh-features are checked). Contra Chomsky 1995 we also argued that there is clear evidence that all wh-phrases do themselves carry formal properties (wh-features) in need of licensing and it is not +wh-interrogative properties/features of a +Q Comp alone that are in need of satisfaction. This fact is somewhat masked in languages like German/English where the general wh-licensing domain is quite free, but becomes clearly apparent when one considers multiple-wh questions in other languages (e.g. Iraqi Arabic and Hindi).

Such independently motivated proposals allow one to develop an account of Partial Movement where standard Minimalist views on the locality of feature-checking may not. The fact that wh-feature-checking arguably results from partial movement to the Spec of a *-Q* Comp is not problematic in itself here - wh-phrases in German may be feature-checked in any position c-commanded by a +wh+Q Comp. However, what did need to be accounted for is why PM is *forced* to take place in wh-expletive structures. Considering *multiple* wh-questions in which PM takes place, it was observed that only a

single wh-phrase is required to undergo PM; consequently it was argued such partial raising cannot be attributed to any change in the basic wh-licensing domain. Instead one seems forced to assume that (partial) movement of a single wh-phrase must take place for basically the same reasons that (full) raising of a single wh-phrase does in non-wh-expletive questions - in order to (unambiguously) establish a clause/sentence as a wh-question and determine the +Q Comp as a licensor for wh-elements in its domain. If this is in fact the case, then formal triggering of the +Q Comp as +wh cannot be achieved via raising of the wh-expletive (as if it did, there should be no secondary partial movement), and one has to conclude that wh-expletive movement to the +Q Comp must take place for some other reason. In complex multi-expletive question forms one indeed finds that such expletives regularly undergo raising to *non*-interrogative Comps, hence elsewhere are not involved in any *direct* Comp-triggering function. If the role played by raising of wh-expletives raised to both +Q and -Q Comps may naturally be assumed to be the same, we suggested that this is to affect and alter/extend the 'triggering domain' of a +Q Comp. In non-wh-expletive questions in German a wh-phrase must raise to the Spec of a +Q C in order to trigger Comp as +wh - the triggering locality of Comp is thus highly local and restricted to Spec of C; where no wh-element occurs in SpecCP the +Q Comp will default to a yes/no specification (and no wh-phrase will be formally licensed by Spell-Out). We suggested that when a wh-expletive raises to the +Q Comp it does not carry the potential to trigger Comp as +wh but will nevertheless prevent the Comp from defaulting to yes/no. At the same time this will also enlarge the triggering locality of Comp, essentially indicating that a wh-phrase which does carry the potential to trigger C will be located in a wider locality, one which must be defined relative to the notion of tense domain.

The same locality-extending function is also carried out by secondary intermediate wh-expletives, and it was further argued that the raising of *all* wh-elements, expletives and substantive wh-phrase, is motivated by the need of each element to achieve licensing for itself - if the wh-expletive does not raise to Comp, the latter will not (ultimately) be determined as +wh and neither wh-phrase nor wh-expletive will be licensed, all wh-elements bearing (wh-)features in need of checking prior to Spell-Out.

In addition to providing a principled explanation of the complex set of constraints affecting partial movement structures, two more general conclusions are also reached. The first concerns the issue of whether it is actually wh-features on a wh-phrase itself or strong +wh-operator features on C that can be said to be in need of checking in wh-questions. According to Chomsky 1995, +interpretable features such as *wh* need only be checked when they are strong and introduced on a C^0 head. Overt wh-movement, where attested, will take place purely to check such strong operator features on C and not because any wh-features on the wh-phrase require checking. Evidence from Partial Movement structures however indicates that this view cannot be correct. Any strong operator features on a +Q C should be checked by raising of the wh-expletive; the fact that a substantive wh-phrase must also undergo some wh-related movement clearly demonstrates that there are properties/features carried by the wh-phrase which are in need of formal licensing by Spell-Out. Iraqi Arabic bears further testament to this in questions employing wh-expletives (which should satisfy a strong C) - *all* wh-phrases must occur in the licensing domain of the +Q C by Spell-Out (the adjacent tense domain - see above) as all wh-phrases carry wh-features to be licensed (examples 59/60).

A second conclusion has been that, as argued in chapter two, wh-feature-checking is *not* restricted to occurring within Spec of a +Q C but may take place within larger domains. Partial wh-movement can only be attributed to a need for wh-features to be checked prior to Spell-Out; as the partially-moved wh-phrase does not however occur in any +Q Comp at Spell-Out but is ostensibly licensed, its feature-checking must be effected non-locally as claimed. The evidence here then provides strong support for this conclusion initially made in chapter two. The conclusion is also further strengthened by arguments in the preceding paragraph that it is indeed wh-phrases themselves rather than just (certain) +Q Cs which carry wh-features in need of checking - if from this one makes the natural assumption that *all* wh-phrases carry such features in need of licensing (as has been done in chapter two for various other reasons), then again it can be concluded the pre-Spell-Out checking of wh-features on secondary in situ wh-phrases in English/German will be effected outside of SpecCP and *not* in any 'strict' checking configuration (as for example

in: 'What did you give to *whom*?').

Chapter Four

Licensing of N-Words

This chapter concerns itself with aspects of the licensing of 'n-words' in French, Italian and West Flemish - elements such as *personne*, *nessuno* and *niemand* which are licensed by Negation. A variety of evidence suggests that the licensing relation which obtains between Negation and n-words in these languages is one of *feature-checking*, with *neg*(ation)-features carried by n-words requiring checking against the head of Negation Neg^0. It is observed that n-words in West Flemish may undergo overt pre-Spell-Out raising to a position which can be argued to be SpecNegP (such *movement* being indicative of a feature-checking relation), and the dependency between Negation and in situ n-words in French and Italian appears to be constrained by locality restrictions which also affect movement operations, suggesting that in French and Italian n-words similarly may be required to raise to Negation *at LF*. We will argue however that while the Negation-n-word relation in Italian and French is indeed one of feature-checking, there is other strong evidence to indicate that such feature-checking cannot however result from any LF *movement,* and therefore that the checking of neg-features must take place non-locally (i.e. not in SpecNegP), just as has been seen to be possible in previous chapters with wh-feature-checking.

One central piece of evidence that will be given for this conclusion is the observation that n-words in French and Italian may generally not occur in embedded finite clauses where the licensing negation is in a higher clause, e.g:

(1) *Il ne pense que Pierre a vu personne.
He does not think that Pierre saw anyone.

As tensed CPs do not constitute islands for extraction there is no reason why LF raising should be blocked in sentences like 1 above. In other cases of in situ n-words such as 2, the licensing of an n-word/Neg has however been taken to be effected via standard A'-movement of the n-words to (Spec)NegP (notably in Moritz & Valois 1994):

(2) Il n'a vu personne.
He did not see anyone.

Arguing that an LF raising-to-Neg account can neither account for the unacceptability of examples like 1, nor simply ignore them, we will also show that a *QR*-based approach to n-word licensing (as recently suggested in Deprez 1995) is equally unsatisfactory. The tense-boundedness of n-words relative to Negation will be shown to be strikingly similar to tense-related restrictions on other *wh*-feature-checking relations in Hindi and Iraqi Arabic noted in chapters 2 and 3. We will suggest that such facts then lead to the same basic conclusions as reached in chapters 2/3 regarding the locality of feature-checking, that in well-formed cases such as 2 neg-feature-checking is effected without LF movement and *not* in fact in the Spec of the checking head Neg^0.

Further consideration of various similarities and constraints in the patterning of wh-phrases in Iraqi Arabic/Hindi and n-words in French/Italian then leads to the question of why it is that wh-phrases in the former languages may successfully raise out of an opaque tensed clause and into a licensing domain but n-words in French/Italian may not, and relatedly why n-words in West Flemish are indeed able to undergo raising (for licensing) while those in French and Italian are apparently 'immobile'. It will be suggested that the crucial relevant differences here between Iraqi Arabic/Hindi/West Flemish on the one hand and French/Italian on the other is that *scrambling* is possible in the former but not the latter languages. Arriving at a revision of proposals made in chapter 2, we will argue that the possibility of movement is in fact more restricted than initially assumed and may take place only for triggering but not pure licensing reasons. Where wh-phrases in Iraqi Arabic/Hindi and n-words in West Flemish appear to raise solely in order that a wh-phrase/n-word occurs in the licensing domain of a relevant head, we suggest that this raising is actually the result of 'scrambling' operations which may in turn reduce to the checking of other non-wh/neg-related features. The successful checking of neg and wh-features in these cases is then ultimately suggested to be parasitic on movement into the licensing domain being triggered by other quite independent feature-checking requirements.

1.0 N-words and feature-checking

The term 'n-words' has been employed by various linguists (following Zanuttini 1991) to refer to certain elements in various Romance (and other) languages that co-occur with and are licensed by Negation, typical examples being (French) *personne, jamais, plus, rien,* and (Italian) *nessuno, mai, niente*. The negation which licences n-words must in some instances be phonetically overt, while in others it is (assumed to be) only covertly present. With n-words occurring both in pre- and post-Infl positions with sentential scope, the negative clitic *ne* is fully optional in modern colloquial French (3/4); however, in Italian and Spanish, negation must be overt with post-Infl n-words but is phonetically unrealised with pre-Infl occurrences (5/6).

(3) Personne (n)'est venu.
no-one has come

(4) Je (n)'ai vu personne.
I have seen no-one

(5) Nessuno e venuto.
no-one has come

(6) *(Non) ho visto nessuno.
I have not seen anyone.

Such pre-/post-Infl distinctions in Italian and Spanish (but not French) have led to much debate regarding whether n-words in these languages should be analyzed as negative quantifiers or perhaps as Negative Polarity Items. The fact that pre-Infl n-words do not require any c-commanding overt negation might seem to indicate that such elements are negative quantifiers equivalent to English *nobody*, which being inherently negative does not require any licensing by negation, and when combined with overt negation results in a double-negation reading:

(7) I did not see nobody.

In contrast to this, the behaviour of n-words in post-Infl position appears like that of NPIs, requiring overt negation to be licensed without this however resulting in any double negation interpretation. Rizzi 1982 has consequently suggested that n-words are in fact ambiguous, being negative quantifiers in pre-Infl positions but NPIs when occurring post-Infl. Laka 1990 on the other hand, considering this to be an unsatisfactory solution, proposes that n-words are actually polarity items in *all* environments and that pre-Infl n-words are licensed via movement into the Spec of a (pre-Infl) functional projection SigmaPhrase. Although an interesting suggestion, there do appear to be certain flaws with such a proposal arguing against its general plausibility; firstly there is no obvious reason why NPIs other than n-words should not be licensed by a SigmaP in pre-Infl position, but (other) NPIs are quite unacceptable here; secondly it is not clear why SigmaP unlike all other polarity item licensors should require *movement* into its Spec for licensing, yet if such movement is not required then post-Infl n-words should also be licensed by SigmaP without the need for overt negation to occur, contra observation. Zanuttini 1991 takes the opposite tack to Laka, arguing that n-words are rather negative quantifiers in all positions, and suggests that such kind of negative quantifiers must fulfil a licensing requirement similar to wh-phrases via movement to Spec of NegP. Pre-Infl n-words will be licensed via overt movement through SpecNegP, while post-Infl items will raise to NegP at LF. The obligatory overt phonetic realisation of Neg with post-Infl n-words is then claimed to be due to TP being a barrier for LF but not pre-Spell-Out movement - negation must be realized overtly with post-Infl in situ n-words in order to L-Mark TP and void its barrierhood for the LF raising of an n-word to NegP.

This latter suggestion that a constituent (TP) may constitute a barrier for movement at one level of derivation but not at others is obviously a stipulation which does not accord with Minimalist views that constraints on applications of movement should apply uniformly throughout a derivation. However, the proposal that n-words are in all positional instances some form of negative quantifier requiring licensing by NegP will be maintained here, in preference to either a 'mixed' view (as per Rizzi) or the suggestion that n-words

are polarity items. An analysis of n-words as polarity item appears rather unlikely both for reasons just mentioned and due to various other considerations pointed out in the literature. For example, Longobardi 1991 and others indicate that alongside the set of n-words in Italian (and French) there is a second discrete and parallel set of 'true' NPIs which occur in an array of standard PI environments that significantly do *not* licence n-words, and further that the locality conditions on NPIs and n-words appear to show significant differences, this being unexplained if all are uniformly analyzed as NPIs. N-words may also seem to exhibit a certain inherent negative specification absent from NPIs in answers to questions:

(8) Qui as-tu vu?
Who did you see?

A: Personne.
No-one.

(9) Who did you see?
A: *Anyone.

There thus seems to be sufficient justification for treating NPIs and n-words as elements of different kinds, with the latter displaying a stronger orientation towards negation.

It will now be argued that the relation of an n-word to Negation is one which exhibits the essential basic properties characteristic of other licensing relations referred to as feature-checking dependencies and so may also be classified as such, instantiating a licensing relation of a different type from that present with NPIs. In order to arrive at this conclusion, we first re-examine what types of properties can be said to characterize feature-checking relations in particular, and then show that they also appear to be present in Neg-n-word relations in the languages under consideration.

Feature-checking is essentially a *matching* operation satisfying the requirement that morphologically-encoded specifications on one type of element be correctly paired with corresponding features present on a second element,

this being necessary within a certain local domain (according to Chomsky 1993/95 within the strict locality of Spec-head or head-adjoined configurations, though here claimed also to be possible within larger yet still restricted domains). The pairing of features typically involves one set present on a *functional* head and (minimally) a second set carried either by a maximal projection or a lexical head, where the features on both elements relate to each other in a particularly unique way, i.e. are present in the same (basic) specification in both licensor and licensee. This necessary *matching* of specific features has for effect that an element, for example an inflected verb or a subject DP, may only be checked by a specific functional head, one which is projected with just those corresponding features, and may not be licensed by other heads or maximal projections not bearing the particular feature-set in need of checking/pairing. N-word licensing would seem to have just these qualities: n-words arguably can be claimed to carry morphologically-encoded neg(ation)-features requiring licensing by a unique type of functional head Neg^0 within a certain locality, this Neg^0 bearing a (neg)feature-specification parallel to that of the n-word.[1] This contrasts and distinguishes Negation-n-word dependencies from other types of non-feature-checking licensing relations, like that of NPIs. Such elements may be licensed by a *wide variety* of different elements which may not even be functional heads, as for example where NPIs are licensed by negative quantifiers, universals or in comparatives:

(10) Nobody saw anything.

(11) Every man who ever studied any branch of physics would know that.

(12) John is more skilful than anyone.

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[1] Something does however need to be said about the fact that n-words in *certain* languages may also appear licensed in yes/no questions. West Flemish does not allow this and it is only marginally possible with *personne* in French (but not other n-words). In Italian though it would appear to be a genuine option, as e.g. in:

(1) E venuto nessuno?
Has anyone come?

One can either suppose that such n-words are ambiguous with a double lexical specification, each being associated with different licensing conditions and features, or one could adopt the account proposed in Zanuttini 1991 where it is suggested that a yes/no +Q Comp may carry negative-features which will licence n-words.

It seems implausible to suggest that there is actually any feature sharing or matching between the diverse set of elements that licence NPIs and the NPIs themselves. Also one may add that whereas the functional heads which engage in feature-checking have been argued to *require* an element of a certain type to match against, in NPI licensing relations it is not the case that any of the licensors requires the presence of an NPI in particular. Against this where the Neg^0 heads *ne* and *en* do occur in French and West Flemish some other negative element must also be present, either an n-word or what may be considered to be a 'default' Neg Specifier, *pas* and *nie*:

(13) Je ne l'ai *(pas) vu.
I have (not) seen him.

(14) Je ne suis *(jamais) alle.
I never went.

(15) ...da Valere woarschijnlijk Jens *(nie) en-kent.
..because Valere probably does (not) know Jens.

(16) ..da Valere woarschijnlijk niemand/*Jens en-kent.
..because Valere probably doesn't know anyone/Jens.

Thus the presence of an n-word may directly satisfy some property of negation, arguably through feature-sharing/matching/checking, in a way that licensees in various other relations are not required to, and in a way that might (for example) seem to parallel the obligatory required presence of a wh-phrase in sentences where an unambiguous +wh+Q morpheme occurs in Comp.

The possible well-formed occurrence of n-words in *subject* positions in Italian and French also indicates that n-words stand in a qualitatively different relation to Negation than other elements which are potentially licensed by it. NPIs may *not* occur in subject positions:

(17) Nessuno e venuto.
No-one came.

(18) *Anyone is not here.

(19) There isn't anyone here.

If the n-word in 17 is somehow licensed by Neg^0, where a standard Minimalist analysis would be that its features are checked via movement through SpecNegP before raising on higher to SpecTP, it is apparent that this particular type of licensing option is *not* available to NPIs. The licensing of NPIs would instead seem to be dependent upon a c-command relation existing between the licensing element and the Spell-Out position of the NPI itself; c-command of the trace of a raised NPI (as would be left in SpecVP after movement to SpecIP) is not sufficient to licence an NPI (18), nor may an NPI be licensed via any hypothetical movement through Negation on its way to SpecIP. N-words however *may* apparently be licensed by passing through a relevant position (arguably SpecNegP) and it is not the actual Spell-Out position of the n-word that is critical. In 17 the n-word will not be c-commanded by Neg^0 (as true NPIs in Italian may not occur here), rather the n-word must be licensed in some position prior to that in which it occurs at PF. This can also be seen in a comparison of Focus and Left Dislocation structures involving n-words in Italian. Cinque 1990 has convincingly argued that the former type of construction results from movement while the latter does not, a Left Dislocated element being base-generated in its PF position. As 20/21 show, n-words may occur in clause-initial positions if they are focus-raised but not if they are Left Dislocated:

(20) NIENTE, ho detto.
Nothing did I say.

(21) *Niente, a Maria (l')ho dato ieri.
Nothing I gave (it) to Maria yesterday.

In 20 the n-word may raise from within the VP through a position in which it can be licensed by Negation, while the n-word in 21 being base-generated clause-initially will at no point be in a position local to Neg^0. Therefore again, and unlike NPI-licensing, it is not the PF/Spell-Out position of the n-word

which is relevant but other positions through which the n-word may have passed, this being typical of feature-checking dependencies but not other licensing relations.

Further strong arguments for assuming that n-word-Negation relations constitute feature-checking dependencies are provided by the fact that in West Flemish n-words are actually attested to undergo movement (as detailed below), raising the n-word to a position that can be argued to correspond to (Spec of) NegP. In Chomsky 1993/95 it is claimed that movement operations may *only* take place in order to establish feature-checking relations, hence n-word raising should only be possible if indeed triggered by feature-checking requirements.

Where the scope of an n-word in West Flemish is sentential Zanuttini and Haegeman 1991 have shown that it must raise out of VP (or out of an AdjP as in 23 below) to some higher position in the functional structure of the clause; the sentential scope reading of an n-word in 22 contrasts with scope restricted to AdjP (23) when no raising takes place (as indicated in the glosses):

(22) ...da Valere [$_{AdjP}$ketent me niets] is.
...that Valere is pleased with nothing.

(23) ...da Valere [me niets]$_i$ [$_{AdjP}$ketent t_i] is.
...that Valere isn't pleased with anything.

Raising of an n-word out of VP is also seen to be obligatory where the sentential Neg head *en* occurs:[2]

(24) da Valere niets$_i$ doavuoren [t_i gedoan] en-eet.
'that there was nothing that Valere did because of this.'

(25) *da Valere doavuoren [niets gedaan] en-eet.
'that because of this Valere didn't do anything.'

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[2] *En* is optional in West Flemish, just as *ne* is in French. It also shares with *ne* the property of being a clitic.

Thirdly, where n-word raising does take place and the negative element *nie* is present (equivalent to French *pas*), an interpretation of Negative Concord arises, this contrasting with the reading of Double Negation which results when the n-word remains within VP:

(26) ...da Valere$_k$ niemand$_i$ nie [$_{VP}$ t_k t_i t_l] kent$_l$.
...that Valere does *not* know *anybody*.

(27) ...da Valere$_k$ nie [$_{VP}$ t_k niemand t_l] kent$_l$.
...that Valere does *not* know *nobody*.

Such NC with n-word raising in West Flemish also contrasts directly with Dutch where the co-occurrence of a negative quantifier with sentential negation *automatically* (and always) results in Double Negation:

(28) Ik heb niemand niet uitgenodigd.
I have no-one not invited
I did not invite no-one.

Readings of Negative Concord will arise where there is some kind of direct association and *dependency* between a negative quantifier and Negation, this being present in 26 arguably due to a neg-feature-checking/licensing relation obtaining between Negation and the n-word, but absent in 27 and 28 where the negative quantifiers are interpreted and licensed independently of sentential negation.[3] Deprez 1995 has suggested that Negative Concord may result from a process of absorption where the negative operators hypothetically present in negative quantifiers optionally collapse into one instance of negation (after QR to the same functional complex); the impossibility of Negative Concord in 27,28

[3] How an n-word may in fact occur licensed within VP in West Flemish will be examined in a later section. Essentially it will be suggested that there is some null constituent Negation licensing VP-internal n-words, just as Zanuttini 1991 has proposed is the case with non-argument n-words in Italian (such elements not requiring negation to be overt even though occurring in *post*-Infl positions) e.g:

(i) E partito con niente in mano.
He left with *nothing* in his hand.

and 29 below would however seem to indicate that neg-absorption is in fact only available where a negative quantifier does bear some other licensing relation to Negation:

(29) Nobody saw nothing.

Thus West Flemish shows that n-words may undergo movement with definite interpretative effects (i.e. it is non-vacuous), that this movement directly relates to (sentential) Negation and that it may be forced to take place in certain instances, for example where an overt sentential Neg head *en* is present (24/25). The conclusion that naturally may be drawn from this is that the Negation-n-word relation here is indeed one of feature-checking.

Finally, although there is no similar overt movement of n-words to NegP in Italian and French, the observation that Negation-n-word dependencies are nevertheless subject to locality constraints that otherwise can be shown to affect applications of movement in these languages has been interpreted as indication that such elements do undergo *LF* raising to NegP. N-words may not occur within strong islands such as CNPs, subject and adjunct CPs where licensed by Negation exterior to the island:[4]

(30) *Non accettero [la proposta di aspettare la lettera di nessuno].
I will not accept the proposal to wait for the letter of anyone.

(31) *[Che fosse presente nessuno] lo spaventerebbe.
For no-one to be present would frighten him.

(32) *Non fa il suo dovere [per aiutare nessuno].
He does not do his duty to help anyone.

(33) *[Engager personne] n'est permis.
To hire anybody is not allowed.

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[4] The Italian data here is taken from Longobardi 1991, French from Moritz and Valois 1994.

(34) *Fred desire ne rester en ville [pour aider personne].
Fred does not want to stay in town to help anybody.

35 and 36 further indicate that n-words in French may often not occur within DPs, paralleling the fact that extraction from such positions is barred:

(35) *Tu n'as lu [le livre sur personne].
You have not read the book about anyone.

(36) *Qui$_i$ as-tu lu [le livre sur t_i]?
Who have you read the book about?

If such locality facts are taken to indicate that n-words do undergo covert movement at LF as proposed in Longobardi 1991, then seen from a current Minimalist position this can again only be explained in terms of raising to satisfy feature-checking requirements.

2.0 Locality Mismatches

We would like to suggest that while there is hence a variety of good evidence that Neg-n-word dependencies are of a feature-checking type and essentially different from NPI-type licensing relations, persuasive arguments can also be given that an n-word does not necessarily need to undergo movement to Neg^0 in order to satisfy neg-feature-checking. We will propose that n-word checking like wh-feature checking potentially can be 'non-local' and not restricted to the strict locality of a Spec-head configuration though at the same time still subject to certain purely non-movement locality constraints. Contra Longobardi 1991 it will therefore be suggested that the locality restrictions observed in 30-36 above in fact need not automatically be interpreted as indication of LF movement. As already argued in chapter 2, there are types of linguistic dependency constrained by island locality which for other good reason may not be analyzed as resulting from movement, e.g. Clitic Left Dislocation in Italian (Cinque 1990), Comparative Deletion (Bresnan 1976), and Antecedent Contained Deletion (chapter one). Neg-n-word licensing will then be claimed

to be a further case where various islands appear to block a non-movement syntactic relation.

The strong evidence arguing in favour of such a general conclusion comes from a consideration of various 'locality mismatches', instances where the possibility of extraction/movement and the in situ distribution of n-words does not co-incide as would be expected under a covert movement approach. Such mismatches are present in two basic forms; in the first type, it is found that n-words *may* occur in certain positions from which direct extraction may not take place (i.e. the hypothetical covert movement of n-words *would* seem to be violating island constraints here). This is illustrated in examples 37/38 - n-words may in fact appear embedded within certain kinds of DPs in French in positions which may not correspond to traces of wh-movement/relativisation:

(37) Lisa n'a rencontre [le frere [de l'ami de personne]].
Lisa did not meet the brother of the friend of anyone.

(38) *la femme dont$_i$ Lisa a rencontre [le frere [de l'ami t$_i$]]
the woman who$_i$ Lisa met the brother of the friend of t$_i$

The second type of locality mismatch shows that n-words may *not* however occur in various environments which otherwise do allow for free extraction. In both French and Italian n-words may not occur in independently tensed subordinate clauses where the licensing negation is located in a higher clause, despite the fact that such clauses do not constitute islands for extraction:

(39) *Il ne pense que Pierre a vu personne.
He does not think that Peter has seen anybody.

(40) Qui$_i$ penses-tu que Pierre a vu t$_i$?
Who do you think that Peter has seen?

Locality mismatches of the first variety pose a problem for any covert movement analysis similar in kind to that attested with the licit in situ occurrence of *wh*-elements within extraction islands in languages like Japanese

and Chinese. Just as such *wh* phenomena have led to suggestions that covert movement may proceed in ways which do not *directly* mirror overt extraction (as e.g. in Nishigauchi 1986, Fiengo et al 1988) allowing one to maintain that movement nevertheless does take place, Moritz and Valois 1994 have similarly proposed a mechanism to allow for the legitimate covert extraction of n-words from DP islands which might allow for a movement analysis to be upheld. Such proposals will however be shown to be flawed in various ways so that the serious locality problems of this first type do remain and suggest that covert movement of n-words to Negation cannot in fact take place.

The 'boundedness' restrictions on n-word placement of the second type have largely been ignored and left without explanation. The problem of such clause/tense-bound locality should nevertheless be a central worrying concern for any analysis which attempts to equate n-word dependencies with other movement relations which are *not* constrained by considerations of tense. We will consider a *QR*-based approach to the problem suggested in Deprez 1995 and show that such an account is also not able to successfully resolve the issue, so that the tense-bound locality of n-words remains as evidence of the strongest kind against *any* type of covert movement analysis and indicates that the licensing of n-words must be possible *in situ*.

2.1 Moritz and Valois 1994

Moritz and Valois 1994 (M&V) argue that in addition to the existence of island locality restrictions on the distribution of n-words in French (as noted in 33-35) which might be taken as evidence for covert n-word movement, there are other good reasons for adopting such an approach. It is suggested that a hypothetical requirement that n-words be licensed via raising to Spec of NegP may explain two different sets of phenomena - firstly that of '[de NP] licensing' and secondly certain apparent pre-/post-Infl assymetries where n-words occur contained within larger DPs.

Bare [de NP]s, it is argued, are licensed when m-commanded by negative elements such as *pas* or *personne/jamais* etc:

(41) Personne/*Il ne mange [de pain].
No-one/he eats bread.

In certain instances though a licensing n-word may licitly appear in a position which does not m-command the [de NP] at Spell-Out:

(42) Lucie n'a donne [de livres] a personne.
Lucie did not give books to anyone.

42 contrasts importantly with 43 below where it is seen that the occurrence of an n-word in a post-Infl position parallel to that in 42 will not however result in licensing of a [de NP] in a *subject* position:

(43) *[D'articles] n'ont ete donnes a personne.
Articles were not given to anyone.

M&V argue that the contrasts observed strongly support an LF raising analysis of n-words. As *personne* does not m-command the [de NP] in 42, it would not appear to be the Spell-Out/PF position of an n-word that licences a [de NP], yet something in the licensing mechanism must distinguish 42 from 43. M&V suggest that the contrast in 42 and 43 (and the acceptability of the former) may be explained if n-words undergo raising to an LF position which lies *between* SpecIP and the object position - Spec of NegP. Raised to SpecNegP the n-word will m-command and licence an object but *not* a subject [de NP]. The data in 42-43 is then taken as evidence that hypothetical LF raising of n-words cannot be QR to an IP-adjoined position (which would m-command the subject in SpecIP) but must be to a SpecNegP position.

A second argument concerns the paradigm in 43-45 below:

(43) Personne n'est venu.
No-one came.

(44) Elle n'a vu [la photo de personne].
She did not see the picture of anyone.

(45) *[Le livre de personne] n'a ete publie.
The book of no-one has been published.

An n-word contained within a larger DP is only licensed if in post-Infl position at Spell-Out (44 is good but 45 bad), yet *bare* n-words in pre-Infl positions *are* acceptable (43). Moritz and Valois propose explaining the differences observed in the following way. An n-word must raise to SpecNegP at some derivational point in order to be licensed by Neg in a Spec-head configuration; in 43 the *bare* n-word will be licensed when passing through SpecNegP prior to raising on further to SpecIP/TP. In 45 however, the n-words are contained within larger DPs and their neg-features will not be *visible* on these containing DPs if it is assumed that feature *percolation* to a dominating node (here DP) may take place only from Spec or head but not complement positions (as generally argued in Webelhuth 1989); therefore either the neg-features will not be checked when the DP passes through SpecNegP or it will not be possible to trigger movement of the DP through this position at all. In contrast to this, it is seen that n-words may occur within larger DPs when in situ in post-Infl positions (44); it is argued that the neg-features of n-words in such DPs must therefore somehow become visible on the containing DPs prior to movement to NegP. M&V suggest that n-words such as *personne* in 44 undergo covert DP-internal raising to Spec of DP; this will in turn allow percolation of the neg-features to DP from its Spec and trigger further covert raising to SpecNegP where the neg-features will be checked/licensed, as illustrated in 46:

(46) LF: Elle $[_{NegP}[[\text{personne}_i\ [\text{la photo } t_i]_k\ [_{Neg'}\text{n'a vu } t_k]]$.

M&V argue that such a mechanism will not only explain the differences observed in 43-45 but also provide an account of 37/38 where LF n-word raising would appear to violate conditions on extraction. In 37 it is suggested that the n-word will not undergo *direct* extraction from the DP but rather raises cyclically within the containing DPs; movement is first to Spec of the DP [l'ami de personne] giving $[[\text{personne}]_i$ l'ami $t_i]$ then of this DP to the Spec of the higher containing DP resulting in: $[[[\text{personne}]_i$ l'ami $t_i]_k$ le frere $t_k]$. Neg-features will then percolate up from left-branch Spec positions to the highest

DP node and finally trigger movement to SpecNegP:

(47) LF: Lisa $[_{NegP}[[[personne]_i$ l'ami $t_i]_k$ le frere $t_k]_l$ $[_{Neg'}$n'a rencontre $t_l]$.

If a covert raising analysis of n-words is therefore independently motivated by the [de NP] licensing facts and argued to be available in such a form as to account for the pre-/post-Infl differences observed in 43-45 it may then be that the locality 'mismatches' in 37/38 are only apparent and masked by the indirect way in which LF raising to NegP is effected as detailed above. However, on closer inspection there is good reason to reject various key aspects of the proposed analysis with the result that the locality facts can no longer be explained via such a movement approach. Considering the proposals on [de NP] licensing, Deprez 1995 convincingly argues that [de NP]s in fact appear to be licensed by the *head* of negation *ne* rather than by any negative specifier *pas/personne* etc. From the position that *ne* occurs in within clausal structure it automatically follows that [de NP]s in post-Infl positions will be licensed by Neg^0, while those in pre-Infl positions will not be (not being m-commanded by *ne*); the assumption that n-words undergo LF raising to SpecNegP is consequently not called for to explain the asymmetry. Moritz and Valois had rejected the possibility that it is the Neg-head *ne* which licences n-words solely due to the unacceptability of sentences such as 48 below:

(48) *Jean ne mange [de pain].
John does not eat bread.

However, such examples are ill-formed for other quite simple reasons - the neg-head *ne* has no neg spec of any kind to bind, neither a default *pas* nor any n-word. In certain other special contexts a *ne may* however occur without any neg-spec - when this is licensed by certain higher predicates/prepositions - and here it is found that [de NP]s are also licensed even though no *pas/personne* is present (49) (hence it is critically *ne*/Neg^0 and not n-words which licence [de NP]s). It should also be noted that the predicates which licence such a *ne* do not actually force it to occur overtly, yet where a [de NP] is present the *ne* must also be overt, clearly indicating its role in licensing of the [de NP]:

(49) Il craignait qu'un tel scandale *(ne) fasse [de tord] a ses amis.
He worried that such a scandal might (not) cause undoing to his friends.

It would therefore seem that the [de NP] facts cannot be taken as support for an LF raising account of n-words. The LF percolation and Pied Piping mechanism invoked to circumvent the locality problems observed in 37 and explain the pre-/post-Infl asymmetry noted in 43-45 above is also rather implausible when further probed, partly due to aspects of the mechanism itself but also due to the actual status of the data which leads to the analysis in the first place. Considered from a purely Minimalist point of view, the DP-internal raising operations necessary to bring the n-word to a position where its neg-features may percolate up left-branches to the containing DP would seem to have no motivation, there being no obvious features checked via such raising; consequently this type of movement should theoretically not be possible. Also were such DP-internal raising to be a possibility generally available, there is perhaps no reason why one should not expect it to occur overtly as well. In the case of DPs raising to subject position one might expect that an n-word contained within the subject would raise to SpecDP and allow for percolation and checking of neg-features in SpecNegP en route to SpecIP, yet forms such as 50 are quite impossible:

(50) *[[personne]$_i$ le livre t_i] n'a ete publie.

It could be objected against this that any features which *might* be claimed to be responsible for DP-internal raising are *weak*, requiring checking only by LF, so that the hypothesized DP-internal raising may not occur prior to Spell-Out (due to Procrastinate etc). However, it has to be admitted that in various other cases movement for checking of weak features *may* indeed occur prior to Spell-Out when this is forced for reasons of convergence; for example in English where an object wh-phrase raises overtly to Comp it is suggested that it must pass through SpecAgrO to check object agreement, although such features are actually weak. Allowing for the pre-Spell-Out checking of some DP-internal weak features for convergence where the DP raises to SpecIP can be argued to be similar to this, and so it should be possible to find forms such as 50.

Further related arguments come from a consideration of wh-feature checking. M&V note that *wh*-phrases may also occur embedded within DPs in post-Infl positions (50), this contrasting with ill-formed overt raising of the same DP (51), and suggest that a parallel mechanism of DP-internal raising is responsible for making the wh-features visible at LF, this then triggering raising to Comp:

(50) Tu as rencontre [le frere de qui]?
You met the brother of whom?

(51) *[Le frere de qui] as-tu rencontre?
[The brother of whom] did you meet?

Again if such a mechanism is available, one would expect it to be employed with pre-Spell-Out movement, yet the forms predicted do not occur:

(52) *[[Qui]$_i$ le frere t_i] as-tu rencontre?

The reason why 50 above is well-formed would seem to be quite simply that no LF raising of the wh-phrase in any form is required. *If* one adopts Chomsky's 1995 claim that +interpretable features such as *wh* will only require checking where a strong operator feature is introduced on C^0, and that introduction of strong features may only occur in the pre-Spell-Out part of a derivation, then wh-phrases occurring licitly in situ at Spell-Out will not undergo any LF movement. Either a +Q Comp contains strong operator features (introduced before Spell-Out) and overt raising of the wh-phrase will be forced, or no such strong operator features are present at any derivational point and the wh-phrase will not raise even at LF, its own +interpretable features not being in need of checking. In 50 one would have to conclude that there are no strong operator features on C^0 as overt raising of the wh-phrase is not forced; the wh-phrase need not and therefore should not raise at LF and hence no special mechanism is necessary to explain why it may occur embedded within the DP. Similar argumentation against an LF raising account can also be given in the case of n-words. Neg-features shared by Negation and n-words must be

considered to be as +interpretable just as wh-features on a +Q Comp and a wh-phrase are. Therefore one would predict that either overt n-word raising should be attested, where the features on Neg^0 are strong, this perhaps being the case of West Flemish, or no raising should take place at all, the features on Neg^0 being weak. Again no special LF raising mechanism need be invoked to explain the occurrence of n-words in DPs.

Supposing however one were to allow for the post-Spell-Out introduction of strong neg-features on Neg^0 which then might trigger raising of an n-word for checking, it would be predicted that the LF raising of a *single* n-word to SpecNegP should fully satisfy this checking requirement, as +interpretable neg-features on *secondary* n-words should not be in need of any checking. In the light of this, example 53 below should be fully acceptable with raising of the *post-Infl* n-word to NegP, yet 53 is as ill-formed as 45:

(53) *[Le livre de personne] n'a ete jamais publie.
No-one's book was ever published.

That 53 is also unacceptable would therefore indicate that the ill-formedness of 45 cannot be solely ascribed to a failure of checking of strong features on Neg^0, and it may appear that there are other factors perhaps independent of feature-checking which disallow the occurrence of n-words like *personne* in subject DPs.

In fact the exact status of the data concerning n-words in subject DPs is also somewhat in question and far from being entirely clear. Although M&V class 45 with *personne* as being fully unacceptable, other n-words *may* nevertheless occur in parallel positions, for example *aucun NP* (as noted by Kayne), which otherwise patterns exactly as *personne*:

(54) [Le poids d'aucun camion] ne doit depasser deux tonnes.
The weight of no lorry may exceed two tons.

Longobardi gives similar examples in Italian the status (?), which one may interpret as indicating just a certain pragmatic or semantic oddity:

(55) (?)[La presenza di nessuno] lo spaventerebbe.
The presence of no-one would frighten him.

Indeed in English fully negative quantifiers requiring no licensing by negation (hence not needing to check features against a Neg head) may also seem somewhat odd in subject DPs:

(56) ?[Books about nothing] were on sale.

Also, although percolation of negative features might in some instances seem to be restricted to left-branch positions, vis the lack of NPI licensing in 57 vs. 58, at other times such percolation *would* appear possible from right-branch DP-internal positions, as per 59, this perhaps depending on lexical choice/pragmatic factors:

(57) *[A picture by nobody] made any money.
(58) [Nobody's picture] made any money.
(59) [Books on none of the proposed topics] met with any success last year.

Thus in sum, both the grounds for assuming an LF raising operation of the type outlined by M&V and the plausibility of such a mechanism are seriously questioned. The locality problems observed at the beginning of the section consequently remain without explanation and appear to require an analysis in which the licensing of n-words does *not* result from any movement operation.

2.2 N-words and Tense Boundedness

We now consider the second type of locality mismatch, cases where n-words may not occur in configurations which otherwise do regularly allow extraction. These latter cases pose problems for any analysis of covert A'-movement even more serious than those of the first set. Where an element *may* occur in situ in a configuration which does not allow direct overt extraction (as just seen with n-words embedded within DPs) it *may* be possible to suggest that covert

movement of such elements is effected in some indirect way which does not conflict with general constraints on extraction seen to be operative in a language, perhaps via island-internal movement/percolation and pied-piping. Whether such proposals are actually plausible will obviously depend on other factors as argued above, yet theories of pied-piping/percolation potentially will allow one to maintain that a *unique* set of constraints restrict movement operations taking place in both pre- and post-Spell-Out portions of the derivation. The second type of mismatch does not allow this possibility and therefore militates strongly against any covert movement approach. If *overt* extraction from a particular environment is observed to be fully acceptable then clearly no constraints on any movement algorithm are being violated by such displacement; as constraints on movement must apply uniformly throughout a derivation and may not vary depending on whether movement occurs prior to or after the Spell-Out feed-off to PF, it is not possible to suggest that a certain configuration constitutes an island for covert but not overt movement. As opposed to the first set of cases, it is not possible to argue that hypothetical mechanisms such as pied-piping/percolation will allow for the good *overt* movement cases but disallow covert movement as overt extraction may be quite simple and direct and without pied-piping etc.

The central set of problematic cases relevant here relate to the interaction of Neg-n-word dependencies and *tense*. In neither French nor Italian may an n-word in an 'independently tensed' clause be licensed by negation in a higher clause, as e.g:

(60) Questo non vuol dire che Maria *ha/abbia fatto niente di male.
This does not mean that Maria has done anything bad.

(61) *Il ne pense que Pierre a vu personne.
He does not think that Peter has seen anybody.

In Italian an n-word may occur in a clause lower than that of its licensing negation only if the tense of that clause is non-finite, subjunctive or possibly future (this in some general sense then constituting a tense 'dependent' on that of the higher clause). In French there appears to be variation amongst

speakers, with only some accepting n-words in lower subjunctive clauses (but not other types of tensed clauses):

(62) %Je n'exige qu'ils arretent personne.
I do not demand that they arrest anyone.

What is important to note however is that tensed clauses of *no* type constitute islands for extraction in either language, hence a tensed clause cannot be claimed to constitute an island for movement operations. If the licensing of n-words were to reduce to covert movement to SpecNegP (in the case of post-Infl n-words) there is therefore no reason why n-words should not be able to occur in embedded (independently) tensed clauses; movement to the licensing negation should be straightforwardly possible as is seen with overt instances of A'-movement. Consequently the 'tense-boundedness' of n-words is clear and very strong indication that negation-n-word dependencies are not licensed by and dependent upon the possibility of movement of an n-word to Negation; if movement to NegP were to result in licensing/checking of neg-features between Neg^0 and an n-word, then examples such as 60/61 should clearly be well-formed.

There has perhaps been only one serious attempt to confront this important aspect of n-word licensing, notably Deprez (1995) where a Hornstein 1995 and Diesing 1992-inspired *QR*-type approach is proposed. Examining this in some detail we will show that such a QR-based approach does not provide a satisfactory account of Negation-n-word dependencies either, and that there is generally no good reason to relate the tense-boundedness of n-words to *any* type of covert movement operation.

2.3 Deprez 1995

Observing certain differences in the patterning of n-words in French and Haitian Creole, essentially that n-word relations in only the former are tense-bounded, Deprez proposes to account for this variation with the suggestion that n-words in French and Haitian Creole (HC) in fact have quite different inherent properties. It is suggested that those in French are quantificationally

like 'zero'-*numerals*, with the interpretation of *personne* being 'zero-persons', *rien* 'zero-things'. N-words in Haitian Creole on the other hand are argued to be simple variables corresponding to sets of people/things which need to be unselectively bound by a negative operator (this latter Neg binding requirement not applying to n-words in French). Deprez then proposes to capture the apparent boundedness restrictions on n-words in French and various related facts in HC with the claim that certain interpretations of n-words in both languages require these elements to undergo QR, and that absorption and negative-operator binding is restricted to affecting only those n-words QR-ed to the same functional (projection) domain as either a second n-word (for absorption) or a negative operator (for Neg binding).

Taking the case of French first, it is noted that the head of negation *ne* need not be present where n-words occur and that the negative specifier *pas* may under no circumstances co-occur with n-words. Deprez takes this to indicate that n-words in French require no licensing by negation and any negative interpretation arising from the use of n-words must arise from properties of the n-words themselves. Given that a Negative Concord (NC) interpretation arises where two or more n-words co-occur in the same domain (63), rather than the Double Negation reading present in (for example) English when negative quantifiers co-occur (64), she proposes that n-words are not actually specified as being inherently negative, but instead are like numerically quantified NPs with the relevant numeral being zero, this being what results in the negative-like interpretation of zero-persons etc:

(63) Personne (n')a rien vu.
Nobody saw *anything*.

(64) Nobody saw nothing.

Following Diesing 1992 it is then suggested that like numerically quantified NPs n-words are potentially ambiguous with regard to their quantificational force and may give rise to either strong or weak readings. On weak readings n-words, like the cardinal interpretation of numerals, remain within VP and are subject to existential closure, while when strong such elements undergo QR

into the functional structure of the clause (escaping existential closure).

Strong readings of n-words are suggested to correspond to the 'presuppositional' interpretation available to numerically quantified NPs in examples such as: 'I saw two men.' Deprez points out that n-words like numerically-quantified NPs may indeed have two distinct types of interpretation:

(65) Je n'ai vu personne.
I saw no-one.

In response to a question asking who one might have seen, 65 could indicate that the speaker saw no persons *at all* at a certain time/place. However, 65 could also mean that the speaker saw none of a *presupposed* set of people although seeing many other people from outside this set. For example, if 65 is a reply to an enquiry as to whom one saw at a party, it could indicate that although there were many people at the party in question, the speaker of 65 saw none of a particular group of assumed people known to both questioner and speaker of 65. "On this second reading, the meaning is close to: I saw zero of the people I expected to see, the covert partitive reading which is typically the strong reading." (p.36)

Deprez argues that treating n-words in French in this way will make sense of the boundedness problems as follows. In example 66 below there is only a reading of two instances of 'negation', and a NC interpretation paralleling the second English gloss is not available:

(66) Rien n'exige que tu vois personne.
Nothing requires that you see *no-one*.
NOT: Nothing requires that you see *anyone*.

A NC reading, it is claimed, may only result when 2+ n-words occur QR-ed to the *same* functional structure, where they may then undergo a form of *absorption* giving rise to a complex quantificational element with a unique instance of negation. The QR operation that may occur with n-words is argued to be clause-bound in the same way as that of other quantificational elements,

this clause-bound nature of QR resulting from a Hornstein 1995-style view of QR as reducing to raising to the functional structure of a clause for case/agreement feature checking. Hence in 66 *personne* will not QR to the higher clause and consequently will not undergo absorption with *rien*; the lack of a NC interpretation then follows. Thus NC readings in French are taken to indicate and be dependent upon a process of absorption which is only available where n-words QR to the same functional domain.

Turning to HC, Deprez sees as critical differences from French that n-words in this language do not appear to be bounded in their distribution and *do* require the presence of the negative element *pa* (=French *pas*). These facts lead to the suggestion that HC n-words are *variables* in need of unselective binding by a negative operator (pa). As there is only one instance of negation (the neg operator *pa*) per set of bound n-words, Deprez is also able to capture the occurrence of negative concord with multiple HC n-words (rather than double negation). The unboundedness of n-words relative to negation will result from the nature of unselective binding which is not a bounded relation.

N-words in HC like French also allow for the two types of interpretation discussed relative to example 65 where the set of elements represented by the n-word variable is either presupposed or not; Deprez therefore suggests that similar to French HC n-words may either have a weak reading in which they remain within VP (at LF) and are subject to existential closure, *or* a strong reading in which they raise to the functional structure of their clause and are bound there by negation. This pair of potential readings is likened to that available with *indefinites*, which (again following Diesing) may either remain in VP at LF and be bound by existential closure or as generic indefinites raise out of VP to be bound by a generic operator.

The suggestion that strong readings of n-words in HC give rise to QR is then used to explain the observation that the unboundedness of HC n-words apparently disappears when modified by adjectives like *preske* (=French *presque*):

(67) Preske pesonn pa vini.
Almost no-one came.

(68) M pa di (*preske) pesonn vini.
I did not say (*almost) anyone came.

Deprez suggests that the possibility of *preske*-modification and appearance of an n-word as the sole element in an answer form as e.g. in 70 below are properties which critically distinguish n-words from NPIs, indicating that they should *not* be analyzed as NPIs (as also argued in Zanuttini 1991):

(69) I have not seen (*almost) anyone.

(70) Qui as-tu vu?
Who have you seen?

A: Personne.
No-one.

(71) Who did you see?
A: *Anyone. (intended: I didn't see anyone.)

Deprez further suggests that such properties are indicative of and associated with the *strong* reading of n-words. A strong reading of *pesonn* in 68 (when modified by *preske*) will then require that the n-word undergo QR and be bound by a negative operator within the *immediate* functional structure it raises to. As however the negative operator *pa* occurs in the matrix clause in 68 it will not be able to bind *preske pesonn* when raised in the lower clause and this will result in the structure crashing.

Although an interesting set of suggestions, under closer scrutiny there are in fact a variety of good reasons to reject Deprez's basic proposal that certain apparent distributional and interpretational phenomena of n-words are to be explained via the notion of QR and the treatment of n-words as varying in their essential quantificational properties as outlined above. To begin with, in order to explain the lack of NC in 66, Deprez links the possibility of NC to that of absorption, which in turn is only available only when 2+ n-words in French occur raised to the same functional structure. However, it is clear that

NC is *not* restricted just to such hypothetical cases; in straightforward examples like 72 below NC (i.e. no double negation reading) arises between the two n-words yet it is not possible to claim that either must have the presupposed strong reading which would force QR (and allow for absorption):

(72) Personne n'a jamais dit ca.
No-one has ever said that.

NC therefore automatically arises even when it cannot be said that n-words raise to a position where they may unite their respective negative force, thus casting into doubt the critically important QR-based explanation of 66.

Objections against the QR account of HC 68 can also be raised. 68 is supposedly unacceptable because the neg-operator *pa* will not be able to bind the n-word QR'ed to the functional structure of the lower clause (SpecIP); however, given that neg-binding of n-words in HC is regularly unbounded, there is no obvious reason why the locality of such binding should be more restricted when an n-word occurs in SpecIP of a lower clause rather than in VP of the same clause. The only difference between a strong and a weak reading of the n-word in 68 is that in the strong reading the n-word is taken to raise out of VP to escape existential closure; this raising should not affect the locality which relates to a neg-binding requirement quite independent of the strong/weak distinction.[5]

In addition to such problems, the treatment of French n-words as 'zero'-numeral terms in fact may seem to render the QR-absorption account invalid; if French n-words actually contain no negation-element but are essentially just equivalent to 'zero-persons'/'zero-things' etc it is difficult to see how they can unite any negative-type quantifiers in absorption to result in NC, and equally hard to conceive how 'double negation' readings may occur when no 'absorption'

[5] Additionally, *presque-almost*-modification does not appear to be necessarily linked to any presupposed-set reading, further undermining the account of 68; in (i) the NPI *anyone* may indeed refer to a presupposed/assumed set in the same way that *personne* may, yet *anyone* does not allow for *almost*-modification:

(i) When I went to the party I didn't see (*almost) anyone.

takes place. Related to this a 'zero-set' analysis of n-words might seem to predict interpretations which are not attested. For example, where *personne* is licensed by the negative preposition/complementizer *sans*-without, a zero-persons treatment of *personne* predicts the interpretation 'without zero-persons = with someone' whereas the actual interpretation is 'without anybody':

(73) Il est venu sans que personne l'a vu
He came without anyone/zero-persons seeing him.

The analysis of French n-words as zero-numeral terms without any inherent negative specification and claimed not to require licensing via neg-binding seems to fully ignore that there *is* a critical relation between negation and n-words. Where *ne* is present then either the negative specifier *pas* or an n-word must also be present indicating that n-words will satisfy some property of negation, and that there is a special relation between n-words and negation. The unacceptability of examples such as 74 where *ne* appears in a higher clause and *personne* in a lower tensed clause can only be explained if there is some binding/licensing relation which must be satisfied between negation and the n-word:

(74) *Je n'ai dit que Jean a vu personne.
I did not say that John saw anyone.

If there were not to be any neg-related licensing requirement shared by n-words and Negation in French, then simple data such as 74 are unexplained. Examples like 74 clearly indicate that there is some critical relation between negation and n-words which is constrained by the notion of tense and which has nothing to do with constraints on absorption, i.e. Deprez wishes to capture the tense-boundedness facts of French with the suggestion that this relates directly to locality constraints on absorption with multiple n-words (resulting in NC); however here we attest the *same* tense-boundedness where no multi n-word absorption could even be possible as only a single n-word is present. If tense-related constraints are then independently necessary to account for cases like 74, it is unlikely that one also need invoke a fully absorption-based account

to explain essentially parallel locality restrictions with multiple occurrences of n-words.

There is also reason to question and consider more closely the nature of the QR operation assumed here by Deprez. Deprez adopts a version of QR as recently re-interpreted in Hornstein 1995, where QP relative scope determination results from movement for checking of case/agreement-features interacting with LF deletion of either the foot or the head of the chain formed by such raising. The linking of relative scope determination to case/agreement feature-checking both attempts to capture the clause-bound nature of 'QR' and provides obvious (feature-based) *motivation* for this movement (which, from a Minimalist viewpoint, was lacking in May's QR adjunction account of QR). However, it is quite unclear how such proposals can account for examples where the QR operation hypothetically affecting n-words is not exactly clause-bound - where n-words occur in certain non-finite clausal complements but should undergo raising to the functional structure of a higher clause in order to absorb with other n-words there:

(75) Rien ne l'a fait tuer personne.
Nothing made him kill *anyone*.

The case-checking of *personne* should be effected by a SpecAgrO head associated with the functional structure of the lower non-finite clause so that there should be no motivation for *personne* to raise to the functional structure associated with the tensed verb in the matrix; consequently absorption between *personne* and *rien* should not be possible and 'double negation' rather than NC should result, contra the actual interpretation of the sentence. It is also not clear how examples with n-words within larger DPs or occurring as objects of prepositions might be handled in an account based on case-checking, as case-checking of such n-words should not cause them to raise to the functional structure of the verb but be effected PP/DP-internally:

(76) Personne n'a parle [$_{PP}$a personne]
No-one spoke to anyone.

(77) Je n'ai jamais parle [a [$_{DP}$la femme de personne]]
I never spoke to anyone's wife.

If Deprez wishes to maintain that n-words are in general subject to an operation of QR it would seem that a Hornstein-style case-based approach is inappropriate. An alternative avoiding the problems inherent in a May-type free adjunction account of QR would be to assume with Stowell and Beghelli 1994 that QR is 'landing-site specific', i.e. that quantificational phrases each covertly raise to specific (quantificational) functional projections, e.g. 'Dist(ributional)P' in the case of *every NPs*, 'Spec(ific)P' for specific/referential DPs. However, the functional projection that one could naturally suggest is the target for LF n-word movement is obviously NegP, bringing one back to the conclusion Deprez hopes to avoid.

In sum, there are a variety of different arguments which can be raised against the attempt to capture boundedness restrictions on n-word placement via QR-operations as interpreted here. Such an account seems to ignore the vital role which Negation does have in licensing n-words in French. The suggestion that n-words in French and HC are essentially quite different elements also has the result that other fully parallel phenomena in the two languages must ultimately receive different explanations. One example is that n-word sensitivity to strong subject and adjunct islands in both French and HC is accounted for in quite unconnected ways. For HC it is suggested that unselective-binding is 'typically' sensitive to strong islands (though in fact it is far from clear that this is indeed true) hence the Neg operator will not be able to bind n-words in these configurations.[6] In French it is argued that QR is clause-bound so n-words may therefore not appear in subject or adjunct CPs (though again this ignores the crucial licensing role of Negation - n-words may

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[6] It is also unclear how Neg will bind a subject n-word variable in HC, as e.g. in (i), there being no c-command of the subject position by Neg^0:

(i) Pesonn pa vini.
No-one came.

It will be recalled that NPIs which require Neg-binding may *not* appear in subject positions. Such cases instead seem to indicate that n-words here establish some relation with Neg prior to raising to SpecIP, this being typical of feature-checking relations rather than unselective-binding and not requiring c-command by the licensing element at Spell-Out or LF.

not appear in such islands only where *ne*-Neg^0 is exterior to the island). Another instance is that the possibility of n-words occurring as sole answer-forms (as per 70) above has no common explanation in French and HC - in French it is the interpretation of n-words as 'zero-NPs' without any neg-licensing requirement which will allow them to appear as such answers, unlike NPIs (71) which do always require the overt presence of negation. In HC Deprez has to suggest that a null negative operator to bind the n-word is exceptionally licensed in such answer-forms (yet such a null operator is somehow not licensed to bind NPIs, (71). Briefly anticipating how the account of HC and French will apply to other languages, for Italian and Spanish Deprez has to claim that *post-Infl* n-words will be variables like n-words in HC (due to the obligatory presence of Negation with such elements); as Negation does not co-occur with *pre-Infl* n-words though, these latter must analyzed as zero-numeral terms like n-words in French, hence a 'mixed' system must be adopted (see p.18). Such a mixed system should however *not* be possible - the whole thrust of Deprez's arguments is to claim that differences between French and HC are to be explained in terms of *inherent* lexically-encoded quantificational differences between n-words in French and HC. The specification of n-words in Italian and Spanish should therefore be *either* as zero-numeral term *or* variable; if both were available in the lexicon of these languages, when the zero-numeral type n-word is selected, one should attest the occurrence of post-Infl n-words without any overt Negation, yet this is not possible at all. Also as an instance of unselective binding, the relation of post-Infl (variable) n-words to Negation should be unbounded as in HC, yet such dependencies are *always* restricted by tense, as mentioned earlier.

2.4 A semantic explanation of tense restrictions on n-words?

It therefore would appear that neither a covert A'-movement-to-NegP analysis nor a treatment in terms of QR can account for the various tense-related restrictions on n-word distribution in any satisfactory way. Here we consider whether it is possible that rather than being a purely syntactic problem, there may instead be some independent *semantic* explanation for the sensitivity to tense displayed by n-words, this prompted by the observation that the licensing

of *NPIs* in certain languages would also appear subject to similar (tense-related) constraints.

As argued in an earlier section, one may assume that the licensing of NPIs does not involve any movement algorithm. Nevertheless, the distribution of NPIs relative to any licensing element is not completely free and the licensing of NPIs in certain languages does in fact show sensitivity to tense restrictions quite parallel to those attested with n-words. If one may conclude there are semantic reasons why NPIs cannot occur in independently tensed clauses, one might attempt to account for the boundedness of n-words in the same way, perhaps suggesting that while the syntactic licensing of n-words in such environments is licit no coherent interpretation will result.

One language where NPI-licensing is found to be sensitive to tense is Italian. Longobardi 1991 indicates that not only n-words but also regular NPIs in Italian are subject to the same constraint that they may not occur separated from their licensor in subordinate clauses with indicative non-future tense:

(78) Questo non vuol dire che Maria abbia/*ha fatto alchunche di male.
This does not mean that Maria has-subjunc/has-indic done anything bad.

Tsimpli and Roussou 1993 (T&R) suggest that NPIs in Modern Greek (MG) may only be interpreted as *non-specific existentials*. If this were also to be true of NPIs in Italian, it might allow one to argue that such elements could occur licensed only in certain specific environments. NPIs in Italian may occur in irrealis-type clauses with non-specific time reference, e.g. conditionals, clauses with modals etc, or in clauses where negation directly negates the event structure of the clause - essentially all clauses in which there is no assertion or presupposition that an event takes place. One might suggest that the obligatory non-specific interpretation of these NPIs is incompatible with the specificity encoded by tense[7], or, given that sentences such as: 'John read a book.' are fine with the indefinite NP a book being interpreted as a non-specific existential, perhaps the use of tense to assert the occurrence of an event

[7] Noting languages may vary as to what particular types of tense are interpreted as +specific, in MG +past being specific, -past not being specific according to T&R.

presupposes that there are (at least potential) entities corresponding to participants in the event, and that this conflicts with the interpretation of NPIs in certain languages where no such presupposition of a set is present. Relevant to such a possibility, T&R have argued that NPIs in MG are licensed in yes/no questions, but contrast with the use of 'pure' existential quantifiers in their interpretation as indicated below:

(79) Idhes kapjo fititi?
saw-2s some student
Did you see some student?

(80) Idhes kanena fititi?
saw-2s any student
Did you see any student?

Interpretation of 79: a) $\exists x$ Q [you saw x]
Interpretation of 80: b) Q $\exists x$ [you saw x]

As opposed to the use of a pure existential quantifier, an NPI 'cannot be interpreted as presupposing the existence of a student' (p.147).

While NPIs may occur in yes/no questions, they are however not licensed by the interrogative force of *wh*-questions, according to T&R due to the fact that wh-questions (vs. yes/no questions) do create a presupposition that an event took place and that this conflicts with the non-presuppositional/non-specific nature of NPIs (in MG):

(81) ??Pjos idhe kanena?
who-nom saw-3s anyone
Who saw anyone?

T&R suggest that the only instance where NPIs are well-formed in wh-questions is when the wh-question is interpreted as a rhetorical question, hence where the specificity of the time reference may be cancelled:

(82) Pjos mu-aghorase emena pote tipota?
who-nom me-bought-3s me ever anything
Who has *ever* bought me anything?[8]

Considering now the case of multiple independently tensed clauses, it may be argued that each individual clause encodes a discrete event. Where a clause subordinate to a higher tensed clause is however either non-finite or sometimes tense-dependent, the union of clauses may just encode a single (perhaps) complex event. This difference will then have consequences for the licensing of NPIs which can only be interpreted as non-specific/not carrying a presupposition of existence when an NPI occurs in a subordinate clause and negation in a higher clause. With multiple independently-tensed clauses, if the scope of negation is restricted to negating the event structure of a higher clause, a lower (independently) tensed clause will be interpreted as specific in so far as it will describe an event/state of affairs which is asserted or assumed to have taken place/hold, and will therefore encode a proposition whose truth value may only be computed if the existence of the elements within the clause is assumed. The interpretation of such a clause will then not be possible when containing an NPI which does not allow for a specific/presupposed reading. However, where the union of a set of clauses constitutes a single event/state of affairs, subordinate clauses will have no independent truth value, the scope of negation will be the complex single event/state, and the NPI will crucially not occur in a clause which positively asserts any event/state.

If it is possible to give a semantic account along these lines for the apparent tense-sensitivity of NPI-licensing in certain languages, one might attempt to apply a parallel explanation to n-word licensing in French and Italian. However, such an account cannot be extended to cover n-words. As

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[8] In i) below the element KANENA *is* licensed in an embedded wh-question:

i) Anarotjeme pjos dhen idhe KANENA.
wonder-1s who-nom not saw-3s anyone
I wonder who didn't see anyone.

However here KANENA is argued to be (like) an n-word, and although homophonous to NPIs has different licensing conditions, must always be stressed, and in i) can only receive interpretation as referring to a specific presupposed set.

detailed earlier, Deprez has argued that n-words like *personne/rien* have a readily available interpretation in which the existence of a specific set of people/things is indeed assumed by speaker/hearer. Although it could be claimed that weak non-specific readings of n-words might be constrained by the specificity of tense as with NPIs, a strong *presupposed* reading of n-words should *not* be so, and even if tense-related factors were to block the former type of interpretation of n-words in certain instances, it nevertheless should always be possible to obtain one acceptable interpretation for n-words - that corresponding to a strong presupposed reading. That the occurrence of n-words in subordinate tensed clauses *in all instances* results in unacceptability would then seem to indicate that a semantic account such as might be invoked for NPIs cannot be adopted here.

One may further note that in chapters 2 and 3 it was shown that the licensing of *wh* elements in certain languages is also subject to tense considerations similar to those affecting NPIs and n-words (e.g. a wh-phrase in Iraqi Arabic/Hindi may occur in situ in a *non-finite* clause subordinate to that in which the +Q Comp is located, but not in one that is tensed, and German wh-licensing in partial movement constructions is also constrained by tense-dependency). In the case of *wh* elements, just as with n-words, a semantic account such as that outlined above for NPIs can again not be maintained due to the fact that wh-questions do necessarily presuppose an event/state and wh-phrases themselves are interpreted as specific DPs. It would therefore seem that one must allow for a certain cross-linguistic syntactic variation with regard to licensing and tense which does not obviously reduce to purely semantic factors.

3.0 Non-local checking of Neg Features

We now summarize the main line of argumentation so far and consider what conclusions may be drawn from this. To begin with we presented a variety of evidence and reasons for assuming that n-words require licensing by Negation and that the licensing relation is one of feature-checking, it exhibiting key general properties characteristic of feature-checking dependencies and being different in significant ways from other licensing relations which do not involve

the matching of morphological features, e.g. that of NPI licensing. We then considered how the checking of neg-features might be effected in the syntax and focused on the question of whether n-words in French and Italian undergo LF movement to Negation, such covert raising being predicted in a standard Minimalist approach given the strict Spec-head locality conditions presumed to constrain relations of feature-checking. Three sets of locality data were then examined in this respect.

The first set showed that Negation-n-word dependencies in French and Italian are sensitive to a variety of extraction islands. However, it was suggested that as a number of *non-movement* dependency-types are also known to be constrained by similar islands, such locality facts need not be taken as immediate and necessary indication of any covert raising.

A second locality paradigm from French argued against an LF movement analysis. There it was seen that n-words *may* in fact occur in configurations which clearly do not permit extraction; considering and rejecting an LF Pied Piping account of the relevant phenomena for a variety of reasons, the well-formed occurrence of n-words in DP islands was then argued to be good indication that covert raising of n-words to Negation does not take place.

The third and perhaps most crucial set of locality-related constraints observed on n-word-licensing showed that n-words may not occur in various (tensed) environments which otherwise do allow for free extraction. If the licensing of n-words in French and Italian were to be dependent upon and satisfied by raising of an n-word to Negation, this occurring (at the latest) by LF, then the clear prediction is that n-words should occur quite licitly in embedded tensed CPs, yet such is not the case. The possibility of QR and purely semantic accounts of the 'tense-boundedness' of n-words was then also examined, but ultimately argued not to be able to provide a satisfactory explanation of the facts.

The significant conclusion may therefore be drawn that Negation-n-word relations in French and Italian do *not* in fact involve any covert raising operation, such dependencies critically not sharing in common with other A'-movement dependencies the classic and definitive property of being unbounded, and further being observed to span clear extraction islands in certain instances.

Such a conclusion is seriously problematic for standard Minimalist views on the locality of feature-checking. While it has been argued that a relation of the feature-checking type must indeed be established between an n-word and Negation, it would also appear that the licensing of such a relation may and will not be satisfied via (LF) movement to Negation (as then n-words *should* be able to occur freely within embedded tensed clauses). The checking of neg-features between Negation and n-words occurring in situ at PF in fully acceptable cases such as 83/84 must therefore also be taken to be satisfied *without* any LF raising to Negation, that covert movement is in no instance the means by which such neg-features are checked:

(83) Je (n')ai vu personne.
I didn't see anyone.

(84) Non ho visto nessuno.
I didn't see anyone.

The obvious problem here for standard claims on feature-checking is the same as has been encountered in previous chapters. Chomsky 1993/95 has argued that feature-checking may only be effected within the strict locality of Spec-head/head-adjoined configurations. However, here it appears that a checking relation is satisfied between elements which at no point come into such a strictly-local relation, and must be possible within larger domains, relating Negation to the actual Spell-Out positions occupied by the n-words in 83/84. The generalisation from the data would appear to be that where an n-word occurs within the same clause as the licensing Negation, as in 83/84, then the neg-feature-checking relation is satisfied, but where an n-word is found within a lower tensed clause the licensing relation is blocked and fails, as per 85/86:

(85) *Non ho detto che Maria ha visto nessuno.
I didn't say that Maria saw anyone.

(86) *Je n'ai dit qu'il a vu personne.
I didn't say that he saw anyone.

That a feature-checking relation between a functional head and an XP does not necessarily require *movement* (to Spec of the licensing head), and that such feature-checking may thus be non-Spec-head-local is however neither problematic nor unexpected in the general approach to feature-checking put forward here. Much evidence and argumentation has already been presented that the locality within which feature-checking may be effected is indeed subject to certain variation and need not be as local as Chomsky suggests. In examples 83/84 above we consequently suggest that the checking of neg-features is satisfied by simple occurrence of the n-word in the immediate tense domain of Negation where an n-word is c-commanded by Neg^0. As a c-command relation does not exist between Neg^0 and the PF position of subject (or topicalised) n-words (as in 87/88), it can be assumed that the checking of neg-features is in such cases satisfied at some point prior to n-word raising when the n-word is c-commanded by Neg within its tense domain (in SpecVP):

(87) Personne$_i$ (n')est t_i venu.
No-one came.

(88) Nessuno$_i$ e t_i venuto.
No-one came.

This sensitivity of Negation-n-word dependencies in Italian and French to considerations of tense bears striking similarity to constraints on *wh*-feature checking observed in Iraqi Arabic and Hindi, as detailed in chapter 2. It will be recalled that in these languages a wh-phrase may occur licitly in situ if in the tense domain of the +Q Comp, but may not occur within embedded tensed clauses when the +Q C is in a higher clause:

(89) Mona shaafat meno?
Mona saw who
Who did Mona see?

(90) Mona raadat [tijbir Su'ad [tisa'ad meno]]?
Mona wanted to-force Su'ad to-help who
Who did Mona want to force Suad to help?

(91) *Mona tsawwarat [Ali istara sheno]?
Mona thought Ali bought what
What did Mona think that Ali bought?

(92) Raam-ne Mohan-ko [kise dekhne ke liye kahaa]
Ram-erg Mohan-erg whom to-see for told
Who did Ram tell Mohan to look at?

(93) *Raam-ne kahaa ki *kOn* aayaa hE
Ram-erg said who has come
Who did Ram say has come?

Examples 89, 90 and 92 appear to strongly parallel 83 and 84, while the unacceptable 91/93 are essentially just like 85/86; in the former set elements requiring feature-checking occur well-formed in situ in the tense domain of the licensing/checking head, while in the latter they are found to be unacceptable when embedded in a lower tensed clause which does not contain the relevant licensing head. With regard to wh-licensing in Iraqi Arabic/Hindi it was argued with good supporting evidence that: a) the checking of wh-features may occur non-Spec-head locally between a wh-phrase in situ and a +Q Comp (as in 89/90/92), b) such wh-checking is however still subject to a certain locality critically defined by tense (so that wh-phrases may not occur in lower tensed clauses as in 91/93), and c) it is not possible for *LF movement* to save unacceptable forms such as 91/93, even though such movement should not be blocked by any locality restrictions. Given the strong parallels between wh-feature-checking in Iraqi Arabic/Hindi and the patterning of n-words relative to Negation in French/Italian it would seem that the licensing of elements in both cases should be explained in the same way, and that general conclusions concerning (the locality of) feature-checking drawn on the basis of Iraqi Arabic/Hindi might reasonably be invoked to account for n-word licensing in

French/Italian. As Iraqi Arabic and Hindi have already provided very good grounds for assuming that feature-checking need *not* (always) be Spec-head local and may be constrained by tense factors, it does not seem unlikely that other feature-checking relations, such as that hypothesized to obtain with n-words in Italian/French, might also display a fully parallel nature. Proposals regarding *neg*-feature checking made immediately above can thus be argued to receive strong support and justification from argumentation made at length in earlier chapters. In both *wh* and *neg* cases, checking will be possible in any position c-commanded and within the tense domain of the licensing functional head.

3.1 Checking of n-words vs. Neg^0

In chapter 2 it was also argued that all wh-phrases carry features in need of licensing and that it is not just a functional checking head C^0 which may (perhaps) have a *wh*-checking requirement. With Negation-n-word neg-checking relations similar evidence can also be provided that all n-words bear neg-features to be licensed.

Chomsky 1995 suggests that *+interpretable* features, such as *wh*, will only require checking when strong and introduced on a functional head. This proposal is in part due to the observation that in languages like English only a *single* wh-phrase in multiple wh questions undergoes overt raising to Comp while all other secondary wh-phrases remain in situ - if wh-phrases themselves required checking, it might be expected that they would all raise to Comp, whereas if the relevant wh-checking requirement applies only to Comp, then raising of just a single wh-element to satisfy this checking would seem to be predicted. Secondary wh-phrases are also attested to occur quite freely in situ in syntactic islands (indicating that raising to Comp does not occur at LF either) hence even if they are assumed to carry wh-features, it may be taken that these (+interpretable) features do *not* require checking. Such a view of the types of element that require feature-checking has been disputed in earlier chapters; there it was argued that even +interpretable features born by maximal projections such as wh-phrases are in need of licensing, and furthermore that *all* wh-phrases are subject to a checking requirement.

Amongst the various evidence presented for this was the fact that in Iraqi Arabic and Hindi all wh-phrases must occur within the tense domain of a +Q Comp by Spell-Out, indicating that there is a locality relation not just between the +Q C and a single wh-phrase but all such elements present:

(93) *Meno tsawwar [Ali xaraj weyya meno]?
who thought Ali left with whom
Who thought that Ali left with whom?

(94) Meno rada [Ali ysa'ad meno]?
who wanted Ali to-help whom
Who wanted Ali to help whom?

Italian and French provide further evidence that all elements carrying features of a +interpretable type require checking, in this case *neg*-features.

First of all it can be established that an n-word does *itself* have neg-properties in need of licensing in addition to any present on the functional Neg head. In Italian it can be argued that Neg^0 in fact need not bind any n-word or other negative element, being possible as simple sentential negation (e.g: Non sono venuto. 'I didn't come.)[9], yet an n-word in object position requires the obligatory presence of overt negation to licence it:

(95) *(Non) ho visto nessuno.
I didn't see anyone.
NOT: I didn't see no-one.

Hence in 95 it is essentially the n-word which carries neg-properties critically in need of satisfaction. 95 will also only give rise only to readings of Negative Concord, not of Double Negation, this distinguishing n-words in Italian (and French) from negative quantifiers in other languages which do *not* require licensing and which give rise to Double Negation readings when combined with

[9] Though it must be admitted the neg heads *ne* and *en* in French and West Flemish do have to bind some other neg element.

negation, as seen in the English gloss (and also shown earlier with Dutch data). The licensing requirements of n-words can again be seen in Left Dislocation structures such as 96; as no binding requirement of *non* is being violated here, the unacceptability of 96 must relate to a failure of licensing of the n-word itself (for reasons discussed earlier):

(96) *Niente, a Maria (l')ho dato ieri.
Nothing I gave (it) to Maria yesterday.

Were it to be the case that only the functional head Neg^0 carried neg-features in need of checking, then one might also expect there to be some general asymmetry in the locality relating primary and secondary n-words to Negation. If Neg^0 required that just a *single* n-word raise to it at LF for checking of neg-features, then only a single 'primary' n-word should be subject to locality restrictions relative to Negation, and it should be possible for other secondary n-words to occur in any type of position/island (as with secondary wh-phrases in English multiple wh questions). Supposing one were somehow to allow for Tense to constitute a barrier for LF movement in order to rule out examples with (single) n-words in embedded tensed clauses (85/86), the addition of a second n-word to the matrix clause would be predicted to make such examples fully acceptable; this latter n-word should satisfy feature-checking on Neg^0 and the secondary n-word in the lower 'tense-island' would not have to raise to Neg at LF at all, being +interpretable. However such examples are equally as ungrammatical as sentences with single n-words in embedded tensed clauses:

(97) *Nessuno ha detto che Maria ha fatto niente.
No-one said that Maria did anything.

Parallel examples in French (98) while not ungrammatical do not allow for a reading of Negative Concord between the two n-words, hence it must be assumed that the lower n-word is licensed by (covert) Negation in its own clause and cannot relate to higher clause negation, despite the additional presence of *personne*:

(98) Personne (n')a dit que Jean a rien fait.
No-one said that Jean did nothing.

That all n-words require licensing/checking, even though the neg-features they arguably carry are +interpretable, is further seen in multiple n-word sentences where a primary n-word occurs zero-subjacent to Negation and secondary n-words are in strong islands. Not only the relation of a primary n-word to Negation , but that of all n-words is constrained by a clear notion of locality:

(99) *Je n'ai rien fait pour aider personne.
I didn't do anything to help anyone.

(100) *Partire per incontrare nessuno servira a niente.
To leave in order to meet no-one will not do any good.

(101) *Non fa niente per scoprire la verita indagando su nessuno.
He doesn't do anything to discover the truth by investigating anyone.

Similarly, if one adds a further n-word to the Left Dislocation example 96 it does not become acceptable, the left dislocated n-word still remaining unlicensed:

(102) *Niente, a Maria (l')ho mai dato.
Nothing I never gave to Maria.

There is thus clear evidence from both Italian and French that the +interpretable neg-features to be licensed in sentences containing n-words are minimally carried by all n-words, in addition to any which might be supposed present on the checking head Neg^0.

3.2 West Flemish

Turning now to West Flemish, the null assumption would be that all n-words in this language also carry neg-features to be licensed/checked. In our

discussion of *wh*-feature checking in chapter 2 we argued that if convincing evidence can be provided that a feature is present on all elements of a type in certain languages, then one might reasonably conclude that in other languages elements of the same type will also all bear such features. Evidence from West Flemish does in fact show further that neg-features require licensing on n-words themselves and that such neg-features are not restricted to occurring on just a single member of any multiple n-word set (relating to a single instance of Negation). Haegeman and Zanuttini 1991 report that *all* n-words with sentential scope undergo raising to Negation, and that where the negative specifier *nie* (equivalent to French *pas*) is present, arguably satisfying any requirements of the sentential Neg^0 *en* itself (as seen in the contrast between 103 and 104), n-word raising is still attested:

(103) ...da Valere Jan (*en-)kent.
..that Valere (does not) know Jan.

(104) ..da Valere die boeken nie an zijn voader en-toogt.
..that Valere does not show his father those books.

(105) ..da Valere niemand$_i$ nie t_i en-kent.
..that Valere does not know anyone.

If raising in 105 cannot therefore be triggered by requirements of Neg^0, it can then only be ascribed to licensing-related properties of the n-word itself.

If it is consequently assumed that all n-words in West Flemish are projected from the lexicon with an inherent feature-checking requirement, such a requirement should obviously be satisfied in all instances. In light of this some explanation must be given as to how n-words are licensed when raising to Negation does *not* occur and how Double Negation readings may arise in certain instances (indicating no relation to sentential negation):

(106) ...da Valere nie niemand en-kent.
...that Valere does not know no-one.

(107) Valere en-ee nooit t_i geklaapt [over niets]$_i$
Valere en-has never talked about nothing
Valere has never talked about nothing.

In 106 the n-word remains in situ in the VP and in 107 it has undergone extraposition; in both cases there is only an interpretation of Double Negation. Here we would like to suggest that in West Flemish certain constituents may optionally project a null NegP which will licence an n-word contained within it - the VP in 106 and the PP in 107. A parallel suggestion has been made in Zanuttini 1991 for Italian, where it is proposed that an 'abstract projection NegP' (p.176) may occur in various cases where n-words occur in post-Infl positions without there being any overt licensing Negation (this being otherwise always obligatory), as e.g:

(108) Hanno demolito il *mai* terminato ponte della Magdalena.
They have demolished the never completed bridge of Magdalena.

(109) E rimasto con *niente* in mano.
is left with nothing in hand
He was left with nothing.

(110) L'ha detto con *nessuna* malizia.
He said it with no malice.

Where a null NegP is projected with VP, the n-word in West Flemish will remain within VP and be licensed there (106), the resulting interpretation being one of Double Negation; where no null VP NegP is however present, the n-word will raise to sentential Negation for licensing, giving rise to Negative Concord (105). Negative Concord is then associated with and a direct result of licensing/feature-checking by sentential negation; importantly it is established when feature-checking takes place prior to Spell-Out and is not the result of any LF binding process which might be independent of feature-checking. Were the interpretational possibilities of Negative Concord or Double Negation to be determined only at LF, then one *might* expect Negative Concord

to be available after reconstruction of the extraposed PP in 107. Instead such interpretational options appear to be fixed when the n-words are licensed in the pre-Spell-Out portion of the derivation.

Observing that n-words in West Flemish appear to require neg-feature-checking prior to Spell-Out (hence the occurrence of *overt* n-word raising to sentential Negation), one might ask when n-word licensing/feature-checking is established in Italian and French. If the arguments put forward here are correct that LF raising can and does not occur with n-words in these languages, then the Spell-Out and LF positions of n-words in French and Italian will be the same; therefore in all acceptable cases the relevant configuration which allows for checking will already be present by Spell-Out, and it may be concluded that n-words in these languages are feature-checked (or not) by this point, just as in West Flemish.[10]

3.3 Licensing and Movement

We now stand back to reconsider what have been claimed here to be the licensing conditions relevant for n-words, particularly those in French and Italian, and confront an important problem which has been put aside up until this point. Essentially it has been suggested that all n-words carry neg-features in need of checking and that the checking of these features will be effected where an n-word occurs at some point c-commanded by Neg^0 anywhere within the immediate tense domain containing Negation (i.e. not necessarily in SpecNegP). In addition to this tense-related restriction on n-word licensing, there are also certain other locality constraints on the Negation-n-word dependency, for example n-words may not occur within strong islands and certain DPs in French (such constituents arguably also blocking various other non-movement relations). It was shown that the conditions under which n-words are successfully licensed in French and Italian thus exhibit strong parallels with wh-feature checking in Iraqi Arabic and Hindi; feature-bearing elements in neither instance undergo LF movement to Spec of the relevant

[10] And also in Iraqi Arabic and Hindi with *wh*-feature-checking, where tense constraints fully parallel to those affecting French/Italian n-word licensing are found to be present

checking head but may be licensed in situ when in the tense domain of this head. Now however, a question of considerable importance needs to be asked, namely why is it that n-words may *not* undergo any movement? The evidence presented has strongly indicated that LF movement of n-words does not take place, yet it is not obvious *why* such elements cannot raise - if occurrence within the tense domain of Neg^0 will generally result in licensing of n-words, as is apparent in the good cases (for example 83/84), why is it that n-words in embedded tensed clauses may *not* raise up into the tense domain of Neg^0 to be licensed, especially as such raising clearly should not violate any locality constraints on movement? When indicating the strong parallels between n-word licensing in French/Italian and wh-checking in Iraqi Arabic/Hindi one important set of facts relating to the latter was deliberately omitted awaiting discussion here. In Iraqi Arabic and Hindi where a wh-phrase occurs in an embedded tense domain which will block the checking of wh-features by a +Q C^0 in a higher clause, the wh-phrase *may* indeed undergo raising into the tense domain of the +Q C^0 and be licensed:

(111) *Mona tsawwarat [Ali ishtara sheno]?
Mona thought Ali bought what
Intended: What did Mona think Ali bought?

(112) $Sheno_i$ tsawwarat Mona [Ali ishtara t_i]?
what thought Moan Ali bought
What did Mona think Ali bought?

(113) *Raam-ne kahaa [ki kon aayaa he]
Ram-erg said who has come
Intended: Who did Ram say has come?

(114) Kon_i Raam-ne kahaa [ki t_i aayaa he]?
who Ram-erg said has come
Who did Ram say has come?

It will be remembered that wh-raising generally need not take place, wh-

phrases being well-formed in situ providing they occur within the tense domain of the +Q C^0. When raising does take place however, it may result in the successful licensing of the wh-phrases, as in 112/114. In such instances this raising must importantly take place prior to Spell-Out; as *LF* raising of the wh-phrases from the embedded tensed clause in 111/113 should not be blocked in any way one has to conclude that if it did take place at LF, it would simply come too late to licence the wh-phrases, and therefore that all wh-features must be checked before Spell-Out.

Considering the French/Italian n-word paradigm again it could be suggested that, as with Iraqi Arabic/Hindi wh-phrases, n-words may not occur in embedded tensed clauses as LF raising into the licensing tense domain of Neg^0 would come too late, that neg-features must all be checked prior to Spell-Out. However, on the basis of Iraqi Arabic/Hindi one then might reasonably predict that n-words would undergo overt pre-Spell-Out raising to Negation (or to some position within its tense domain). However, forms such 115/116 are not possible:

(115) *Je n'ai *personne*$_i$ dit que Marie a vu t_i.
I not-have anyone said that Marie has seen

(116) *Io *nessuno*$_i$ (non) ho detto che Gianni a visto t_i.
I anyone (not) have said that Gianni has seen

It is not just the case that *LF* movement to Negation may not occur even when this movement is not blocked by any locality restrictions, overt pre-Spell-Out movement is apparently equally impossible. While *either* pre-Spell-Out *or* LF movement into the tense domain of Negation or to Negation itself should result in licensing of the n-word *neither* appears to be a possible option for n-words. This surprising complete 'immobility' of n-words in French and Italian is all the more puzzling given that n-words in West Flemish clearly may undergo raising, hence one cannot just suggest that some (inexplicable) property of n-words disallows n-word movement *in general*.

Briefly reflecting back on movement and the reasons why it may take place, it has been suggested that raising operations such as *wh*-movement,

focus etc classically occur in order to trigger an *ambiguous* potential licensing head X^0 as a licensor for features of a particular type, e.g. in the case of *wh*-movement in English to determine C^0 as +wh. Considering neg-feature licensing in this context, it is reasonable to assume that no such *triggering* movement should be necessary (and therefore not be possible), as Neg^0 can be assumed to be a fully *unambiguous* head, and does not range over potentially different values (such as yes/no+Q, +wh+Q, focus etc as possible with English C^0).[11] Thus if Neg^0 is unambiguous and may only carry/check neg-features, n-word raising to SpecNegP should not be attested for triggering purposes, again unlike the case of *wh* and focus. If it is objected that Neg^0 sometimes may not be overtly present (i.e. is not phonetically interpreted) and perhaps therefore is not unambiguously present as a licensor, it has elsewhere been argued that a licensing head *need* not be phonetically present in order to constitute an unambiguous licensor, one example being the +wh+Q Comp in Chinese discussed in chapter 2.

In addition to movement for triggering purposes it has however also been suggested that movement may take place in order that a feature-bearing element be licensed within a certain locality, i.e. have its features checked by some head. This was the case of Iraqi Arabic and Hindi mentioned again above. In 112 and 114 movement of the wh-phrases does not take place to satisfy any properties of the +Q Comp, such raising not being necessary in other instances where a wh-phrase occurs in situ within the tense domain of the +Q C; raising does though result in licensing of the wh-phrase/checking of its wh-features. Furthermore only where *all* wh-phrases which occur in an embedded tensed clause raise up to the tense domain of the +Q C will such a wh-question be acceptable:

(117) *Raam-ne socaa ki kon kis-ko maaregaa
Ram-erg thought who whom will hit
Intended: Who did Ram think will hit whom?

[11] Nor over values within a certain range, such as the different types of case (Nom, Acc etc) and combinations of agreement that may be checked by T^0 and Agr^0 if the analysis is extended to these heads as well (see chapter 2).

(118) *Kon$_i$ Raam-ne socaa ki t_i kis-ko maaregaa
who Ram-erg thought whom will hit
Intended: Who did Ram think will hit whom?

(119) Kon$_i$ kis-ko$_k$ Raam-ne socaa ki t_i t_k maaregaa
who whom Ram-erg thought will hit
Who did Ram think will hit whom?

Thus movement here is essentially for the benefit of the wh-phrases themselves, to achieve licensing rather than for triggering of C^0. Therefore, if movement is possible just to satisfy the feature-checking requirements of an element undergoing movement, one would expect that n-words should be able to raise to the tense domain of a particular licensing Neg^0 in French/Italian as in 115/116, with this resulting in successful checking of the neg-features carried by the n-words. Such a prediction is however clearly not borne out as 115/116 show. Considering West Flemish again, it must be admitted that n-word raising in this language is indeed for licensing of the n-words rather than triggering reasons; if Neg^0 is assumed to be unambiguous in all languages (and there is no good reason to believe that it is ambiguous in West Flemish but not in French/Italian), then no triggering of Neg^0 can be required in West Flemish either. In 120 below it is only licensing properties of the n-word itself that are directly satisfied by its raising, as if one were to substitute a non-n-word for *niemand* in either its PF or its trace position the sentence would still be grammatical (hence Neg^0 does not require an n-word in either position):

(120) ..da Valere niemand$_i$ nie t_i en-kent.
..that Valere no-one not neg-know
..that Valere does not know anyone.

One is thus faced with an apparent paradox; data relating to wh-feature checking in Iraqi Arabic and Hindi and neg-feature-checking in West Flemish seem to indicate that movement purely for the licensing of an element rather than triggering of a functional head should be possible, yet n-words in French and Italian which arguably do have a similar neg-feature licensing requirement

appear to be completely immobile, and may not at any point in the derivation raise to a position such as SpecNegP, where licensing/neg-feature-checking would be effected. Attempts to resolve this puzzling contradiction will soon lead to a re-examination of the patterning observed in Iraqi Arabic, Hindi and West Flemish, and ultimately force an important revision of certain proposals made earlier concerning what may actually licence movement operations. First though, we ask whether it might be possible to explain the immobility of n-words in French and Italian in any way that does not require altering the set of assumptions that has been entertained until now.

One possibility that suggests itself perhaps is that the subject n-word in 121 below may not be licensed by negation in the upper clause because it is obligatorily licensed by some NegP in the lower clause:

(121) Non ho detto che nessuno e venuto.
I didn't say that no-one/*anyone came.

This would be a kind of Relativized Minimality effect - if there is a possible NegP in the lower tensed clause which could licence the n-word, then the n-word *must* be licensed/feature-checked by this lower Neg^0, and may not undergo LF raising to a higher NegP. With neg-features already checked the n-word would effectively be immobilized.[12] However, such an account would fail when n-words occur in post-Infl positions in Italian, as e.g:

(122) *Non ho detto che Maria ha comprato niente.
I did not say that Maria bought nothing.

If there were to be a NegP in the lower clause then it must be phonetically

[12] Though Chomsky 1995 suggests that +interpretable features may be checked more than once and hence such checking perhaps would not render n-words immobile. To rule out cases such as (i) where a wh-phrase would be wh-feature-checked in two distinct +Q Comps, Chomsky argues that this would result in a deviant interpretation and so should be disallowed (see Chomsky 1995 for details):

(i) *What$_i$ did you ask [t_i John bought t_i]?

It is not immediately clear whether a similar explanation could be given for the n-word cases noted here.

overt (*non*). If such a NegP is then not projected in 122 the post-Infl n-word should be free to raise to Negation in the higher clause, there being nothing to check its features in the lower CP. It is also obviously not possible to argue that a NegP *must* be projected in the lower clause as not all tensed clauses need be negative.

A second possibility that could be suggested to explain the apparent lack of n-word movement to Negation is that there simply is no *position* for the n-word to move to. It could be argued that Negation is a pure adverbial that does not project a Specifier position, being perhaps an X^0 that adjoins to T^0. If there is no Spec of Neg then an n-word could obviously not raise to such a position and there is no other position c-commanded by Neg within the tense domain of Negation that an n-word could legitimately raise to either - i.e. all Spec positions below Neg (in the same clause) should be reserved for other XPs with checking requirements in these positions. Consequently, if an n-word occurs base-generated in the tense domain of Negation, then it will be licensed by Neg^0 (without movement), but if it is base-generated in a lower tense domain it will have no available means to raise to a position c-commanded by Neg in the clause containing Neg^0 (and if raised to a position higher than Negation, perhaps via focus-movement, it will still at no point pass through any position within the tense domain of Negation where it is c-commanded by Neg). One could also attempt to argue that even were Negation to constitute a maximal projection (given Chomsky's 1994 claims that all elements project to some X-max) then a Specifier position might still not be licensed; if a Specifier performs some modifying function relative to a head it could be suggested that Negation does not allow for any such modification vis the impossibility of forms such as: *quite not, *rather not. Negation may be thought of as being *purely* Negative and not allowing for any modification of degree as might be the function of a Specifier. However, against all of this it has long been argued (in particular by Pollock 1989) that Negation may in fact project a Specifier, in the case of French it being overtly filled by *pas*; in West Flemish also there must be some kind of position for n-words to raise to, which could be taken to be SpecNegP.

If a Spec of Neg is then projected (or projectable) one might attempt to claim that for some reason n-words in French and Italian are simply not

licensed to appear there *phonetically* (noting Brody's 1994 suggestion that the position of a 'contentive', i.e. the phonetically interpreted member of any chain, will vary across languages depending upon where the contentive is morphologically licensed to appear. Contentive wh-phrases in Japanese as opposed to Hungarian will not be licensed to appear in Comp, and hence must be spelt-out in situ, though non-overt copies will occur in the +Q Comp). However, if there were just to be some PF phonetic constraint against n-words occurring in SpecNegP, there is no reason why *LF* raising to SpecNegP should also be unavailable (as in 122) after the phonetic features of an n-word have been stripped away at Spell-Out for interpretation at PF.[13]

Finally, against the general 'lack-of-SpecNegP' account, one may note that Chomsky 1995 has suggested that the way in which features are checked at *LF* is actually significantly different from that prior to Spell-Out. Pre-Spell-Out checking of features is argued to necessitate the Pied Piping of some phonetic host for reasons of PF convergence and features may not raise independently of such a host; in the case of features borne by an XP this will mean that the entire XP will raise to the Spec of the checking head. At LF however, no parallel PF-related constraints apply and features may raise without the containing host; Chomsky suggests that at LF checking of features generated on an XP will therefore involve movement of the features *directly* to the checking head X^0 and not to any Spec position (this only necessitated by the need to accommodate a phonetic host in some X-max position). If this is so, then for neg-feature checking at LF it should not matter whether a Spec of Neg position is available or not, the neg-features of an n-word should raise directly to Neg^0 and not to SpecNegP.

Ultimately then, there does not seem to be any obvious non-stipulative way to disallow movement of n-words to Negation in French and Italian. Such movement *should* result in licensing of the n-words yet it has been shown that raising to Negation does *not* appear to be an option available to n-words in these languages, this despite the fact that n-word raising is attested in West

[13] And given the fact that post-Infl n-words may occur licitly in situ at PF when in the clause of Negation, a standard Minimalist account would indeed have to assume that neg-features in French and Italian need not be checked prior to Spell-Out but only by LF .

Flemish and that wh-phrases may raise for pure licensing needs in Iraqi Arabic and Hindi. We suggest that a solution to the problem is now to be sought via a change in the type of question posed, that a more fruitful line of enquiry may lie not in asking why it is that n-words in French and Italian may *not* undergo raising, but instead in asking why it is that n-words in West Flemish and wh-phrases in Iraqi Arabic/Hindi *may* in fact do so.

Considering first West Flemish and the checking of neg-features between an n-word and Neg^0, after some reflection it might seem that the *overt* raising of n-words to Negation in West Flemish is curiously exceptional among languages with such n-words. The overwhelmingly predominant observation across languages is that n-words do *not* undergo any overt movement across languages and that West Flemish is actually rather extraordinary in that it does exhibit n-word raising.[14] The more one reflects on this fact the more it seems that it is the movement of n-words in West Flemish that is actually in need of some special explanation rather than the immobility of n-words in other languages. From a standard Minimalist viewpoint it could be argued that overt n-word movement in West Flemish may be explained by supposing that Neg^0 carries strong neg-features in West Flemish and hence requires immediate pre-Spell-Out checking. This however ignores the point argued for earlier that *multiple* n-word raising may be attested, so that it is features on the n-words themselves which require checking (in addition to any on Neg^0); one would therefore have to say that also neg-features borne by n-words may be strong (this going against Chomsky's general view that strong features only occur on functional heads). It also leaves unexplained the central problem of why it is that n-words in French and Italian may not raise even at LF - if their neg-features (or those on Neg^0) were weak and not in need of pre-Spell-Out checking they should nevertheless be able to raise at LF, contra observation.

There is however further reason to be suspicious of a strong/weak feature 'explanation' of overt n-word raising in West Flemish. Basically if such an analysis were to be correct one would simply expect to there to be many more languages in which the movement of n-words was overt. With all other

[14] We are not aware of any other language that has overt n-word movement where this cannot also be accounted for by the account we will present below.

feature types one finds that both strong and weak strength specifications of a particular feature are widely present across languages. For example, with *wh*-features one finds a large number of languages with overt wh-raising, this taken as indication of a strong +Q-operator feature in Comp, and also a large number of languages with no overt wh-movement, hence having a weak operator feature in C^0; the evidence that leads one to posit a strong/weak distinction in wh-features is then not just a single isolated case. The same can be said for strong/weak Case or Tense-features; even within related languages of Western Europe there is *common* variation between such features being strong or weak and therefore resulting in either overt or covert movement. West Flemish does however appear to be an isolated case when it comes to its hypothetically strong neg-features, and one would generally expect to attest many more languages with strong neg features in Neg^0 (or on n-words) and overt n-word movement, as the strong/weak distinction is essentially accidental and does not relate to or result in any semantic differences (if it did one would expect that for a particular feature type all languages should have a single and the same specification, either strong or weak). Our purpose here is not to question the existence of neg-features in West Flemish - *movement* of n-words to Negation clearly does result in licensing of the n-words in a way that classically resembles other feature-checking relations - rather we wish to suggest that an explanation of the overt movement of n-words in West Flemish in terms of *feature-strength* triggering such raising is suspicious as one should find more languages with strong neg-features in Neg^0 causing overt n-word movement. The movement that is associated in a standard Minimalist approach with strong-features on a functional head has here been suggested to occur for triggering of an ambiguous potential checking head as a licensor of one particular type or another. As Negation is arguably an unambiguous head, this type of raising should therefore not be necessary; we have consequently argued (also due to the important fact that multiple n-word raising takes place) that n-word raising in West Flemish takes place in order that neg-features on the n-words themselves be checked by Negation. This is what now seems to stand out as quite extraordinary, that only in West Flemish do n-words have the ability to raise for their own feature-checking/licensing needs. N-words in other languages are, by way of contrast, fully immobile

despite having parallel licensing requirements.

3.4 Raising for Licensing

The potential of a feature-bearing element to raise for licensing of its features (as opposed to triggering of a licensing head) was argued for in chapter 2 on the basis of data in Iraqi Arabic and Hindi. If it is indeed true that raising for pure 'self-licensing' may occur, then the raising of n-words in West Flemish is accounted for in the same way that wh-raising in Iraqi Arabic/Hindi is, yet the curious immobility of n-words in Italian/French is left without explanation. Here we entertain the possibility that while the raising of wh-elements in Iraqi Arabic/Hindi and n-words in West Flemish may *result* in the successful checking of *wh* and neg-features, this may in fact actually be a bi-product of movement triggered for other independent reasons, that movement perhaps may *not* take place for pure licensing of an element, and that it is Iraqi Arabic, Hindi and West Flemish that are the exceptional cases in need of explanation rather than French/Italian.

If one does now consider not why n-word movement is unavailable in French and Italian but rather what apparently makes movement for licensing of an element actually possible in West Flemish, Iraqi Arabic and Hindi, one should ask what the latter languages could have in common to explain the patterning observed. One particularly significant property common to all three languages is that they are all languages which allow for certain *scrambling* operations to take place. 'Scrambling' has been the subject of considerable debate in recent years, allowing for perhaps two basic types of analysis within the Minimalist Framework. One, chiefly put forward by Saito (1986 and other works), is that scrambling in languages like Japanese is semantically vacuous A'-movement with no effect upon interpretation; it may therefore be considered to be a PF-type phenomenon, taking place between Spell-Out and PF itself. In the Minimalist Framework *all* movement operations occurring between the point of lexical insertion and LF are claimed to take place to satisfy feature-checking requirements; if scrambling can be ascribed no feature-checking trigger and has no effects at LF, it should therefore have no place in the derivation to LF and must indeed be classified

as a PF phenomenon. A second approach to scrambling is to suggest that such movement operations *do* in fact have interpretative effects, this being argued for strongly in Diesing 1992, where it is suggested that certain scrambling operations are actually applications of QR occurring in the syntax (hence not merely PF movement). Re-interpreting QR within the Minimalist Framework, Stowell and Beghelli (1994) suggest that there are specific functional projections with associated features which QR may target, thus allowing for a feature-based account of QR. If scrambling may be taken to be overt QR, then a feature-checking account of scrambling also becomes possible. We subscribe to this latter view and assume that (at least) in those languages where scrambling can be shown to have interpretative effects or affect the well-formedness of a sentence it is not a PF phenomenon but rather relates to feature-checking between XPs and various functional heads.

As mentioned above, West Flemish, Iraqi Arabic and Hindi are all languages which do appear to exhibit 'scrambling', this now being understood as movement for the checking of morphological features, possibly topic or focus features. Although we have shown that wh-phrases in Iraqi Arabic and Hindi may undergo raising from an embedded tensed clause to the tense domain of a +Q Comp and thereby become licensed, it is not in fact true that this is the only instance where they may raise in this way. Wh-phrases in these languages may also undergo movement when this movement does not seem 'forced' by any *wh*-feature licensing requirements. In example 123 below the wh-phrase is base-generated in the tense domain of the +Q Comp; it therefore occurs in the licensing domain of Comp and does not need to undergo movement to any other position for *wh*-feature checking (and 123 is indeed fully acceptable as it is). Nevertheless such movement *may* take place, as in 124:

(123) Mona shaafat meno?
Mona likes who
Who does Mona like?

(124) Meno$_i$ Mona shaafat t_i?
who Mona likes
Who does Mona like?

Examples 125-128 show the same basic pattern; although the wh-phrase is base-generated in a deeply embedded position in 125, because all the clauses dominated by the matrix in which the +Q Comp occurs are non-finite the entire sentence constitutes a single tense domain. Therefore wh-features may be checked in the base-generated position and no movement is required. As 126-128 show the wh-phrase may nevertheless still undergo movement to any of the clause-initial positions shown:

(125) Mona raadat [tijbir Su'ad [tisa'ad *meno*]]?
Mona wanted to-force Suad to-help who?
Who did Mona want to force Suad to help?

(126) Mona raadat [tijbir Su'ad [*meno*$_i$ tisa'ad t_i]]?

(127) Mona raadat [*meno*$_i$ Su'ad [tisa'ad t_i]]?

(128) *Meno*$_i$ Mona raadat [tijbir Su'ad [tisa'ad t_i]]?

Examples 123-189 then indicate that a wh-phrase in Iraqi Arabic may raise to a clause-initial position even where this is not necessary for *wh*-feature checking. We will assume that such raising takes place in order to check topic-like features (and strictly in fact to trigger the clause-initial head as a licensor for topic-features optionally generated on the wh-phrase).

Hindi shows a similar patterning:

(129) Raam-ne kyaa ciiz khaaii?
Ram-erg what-thing ate
What did Ram eat?

(130) Kyaa ciiz$_i$ Raam-ne t_i khaaii?
what thing Ram-erg ate
What did Ram eat?

In 129 movement of the wh-phrase is not forced for *wh*-checking reasons yet it may take place, arguably to check other features, if scrambling can indeed be reduced to feature-checking. In 131 the wh-phrase may even raise out of the clause in which its wh-features are checked, so the movement here can definitely not be ascribed to wh-feature checking needs:

(131) Kon$_i$ Raam-ne puuchaa ki t_i aayaa he.
who Ram-erg asked has come
Ram asked who has come.

In West Flemish too, alongside apparent raising of n-words to Negation, it is also found that non-n-word DPs may also 'scramble' to a similar position:

(132) ..da Valere niemand$_i$ nie t_i en-kent.
..that Valere no-one not neg-know
..that Valere does not know anyone.

(133) ..da Valere Jan$_i$ nie t_i en-kent.
..that Valere Jan not neg-know
..that Valere does not know Jan.

Earlier it was shown that movement of a wh-phrase in Iraqi Arabic/Hindi and of an n-word in West Flemish may result in the successful licensing/checking of *wh*-/neg-features (for example where a wh-phrase occurs in an embedded tense clause which does not also contain the +Q Comp, this suggesting that movement is directly triggered by the need for wh/neg licensing). However now it is seen that such raising is in all cases also *independently available* and does not *necessarily* depend on the checking requirements of *wh* or neg-features. Such movement may either be simply left (un-)classified as 'scrambling' or one may assume that it is related to the

checking of other non-wh/neg-features. In either case it cannot however be taken to be movement just at PF as it may have obvious effects on interpretation, giving rise to Negative Concord in West Flemish, feeding Binding in Hindi (according to Mahajan 1990), and also may affect the well-formedness of wh-question sentences in Iraqi Arabic/Hindi.

The availability of such 'scrambling' is a property critically distinguishing Iraqi Arabic/Hindi/West Flemish from French and Italian which may now allow for an explanation of the otherwise puzzling immobility of n-words in the latter two languages. N-words in French and Italian have been claimed to be elements of essentially the same type as wh-phrases in Iraqi Arabic/Hindi and n-words in West Flemish, being XPs requiring feature-checking within a certain (tense-defined) locality by an unambiguous X^0 (here Neg^0). On the basis of data in Iraqi Arabic and Hindi we have also been assuming that elements with feature-checking requirements may raise to positions/domains in which such features can be licensed. However, as the evidence has indicated that French and Italian n-words may *not* undergo raising to satisfy their licensing requirements, contra expectation, it now might seem that earlier conclusions concerning movement and licensing cannot in fact have been fully correct and are in need of some significant revision. Specifically we would like to suggest that movement for the licensing of *wh* and *neg*-features in Iraqi Arabic, Hindi, and West Flemish relates to and is actually fully dependent upon the possibility of 'scrambling' in these languages. We suggest that while one may assume that the raising of an element into the checking locality of a licensing head may indeed result in checking of the element's features, such movement may *not* in fact be *directly* triggered by the need to satisfy such requirements, that ultimately movement operations can *only* take place for the triggering of a potential licensing head and not for 'self-licensing' alone. In Iraqi Arabic, Hindi and West Flemish features other than *wh* and *neg* optionally carried by wh-phrases and n-words will give rise to raising of these latter elements into positions/domains in which the *wh* and *neg*-features may also successfully be checked. Such raising can be argued to be driven by the need for triggering of (ambiguous) functional heads as licensing heads for the non-*wh*/*neg* features borne by the wh-phrases and n-words, but at the same time provide a means for the *wh* and *neg*-features on

the wh-phrases and n-words to appear in a domain in which they can be licensed by a +Q C^0 and Neg^0. In chapter 2 it was claimed that wh-phrases in Iraqi Arabic and Hindi may be licensed in any position c-commanded by a +Q C^0 within its tense domain and need not occur in Spec of C for checking. Therefore, although a wh-phrase may be 'piggy-backing' or 'free-riding' on movement triggered for other non-*wh* reasons and consequently raise to the Spec of a functional head other than C^0, this will not be important providing the wh-phrase ends up prior to Spell-Out in *some* position c-commanded by the +Q C (in its tense domain). Apart from data and arguments already given in chapter 2 that wh-feature-checking in Iraqi Arabic/Hindi may be effected between the +Q C and any position in its tense domain, this general approach receives further support from the observation that when a wh-phrase raises from an embedded tensed clause to that of a +Q Comp in Hindi (thereby becoming licensed), this raising need not take the wh-phrase to any clause-initial position which could be claimed to be SpecCP, but may land the wh-phrase in other positions too:

(134) Raam-ne kon_i kahaa ki t_i aayaa he?
Ram-erg who said has come
Who did Ram say has come?

Thus raising which will also result in the checking of wh-features effectively may take the wh-phrase to any position in the tense domain of C provided this movement can be justified for other head-triggering needs/is a position to which scrambling may otherwise occur. Similar claims can also be made concerning n-word raising in West Flemish - movement related to features *other* than *neg* may result in raising of an n-word out of VP and into some position in the domain of sentential negation where the neg-features carried by the n-word will be licensed. In such a view then, the checking of *wh* and *neg*-features is argued to be fully parasitic and dependent on the possibility of raising to a particular domain being triggered by *wh* and *neg*-independent factors, and revising what was initially proposed in chapter 2, it is suggested that an element with feature-checking requirements is *not* in fact able to raise itself to a position where these may be satisfied unless such movement may be

otherwise motivated.

Considering French and Italian, the immobility of n-words in these languages is now no longer exceptional or surprising. Where an n-word occurs in an embedded tensed clause and the potential licensing Negation is in a higher clause (135), there is no possibility parallel to that in Iraqi Arabic, Hindi and West Flemish for the n-word to be carried up as a free-rider into a position within this higher clause, as French and Italian do not allow for the 'scrambling' operations attested in the former languages (i.e. by hypothesis there is no Spec of a functional projection in the domain of Negation to which features optionally carried by an n-word could raise it):

(135) *Non ho detto che Gianni ha visto nessuno.
I didn't say that Gianni saw anyone.

(136) *Non nessuno$_i$ ho detto che Gianni ha visto t_i

(137) *Non ho nessuno$_i$ detto che Gianni ha visto t_i

The n-word in 135 will therefore remain stranded in the lower clause throughout the derivation, its neg-features unchecked, hence causing the sentence to crash. In good examples like 138 the n-word will not undergo any raising either, but due to the position it occupies base-generated within the tense domain of Negation its neg-features will be successfully licensed:

(138) Non ho visto nessuno.
I didn't see anyone.

Hence in sum we are proposing that, after closer examination, one is forced to conclude that it is the movement of wh-phrases and n-words in Iraqi Arabic, Hindi and West Flemish which in fact requires some 'special' explanation, and that a coherent account of n-word checking in French and Italian can only be arrived at if the raising of wh-phrases and n-words in the former languages is actually taken to result from the possibility of features free-riding into a domain via movement triggered for independent reasons. The

raising of wh-phrases and n-words in Iraqi Arabic, Hindi and West Flemish into the checking domains of C^0 and Neg^0 heads does result in these elements being licensed as argued earlier, but crucially this movement is and may not be triggered by the actual *wh-/neg*-feature checking requirements of the wh-phrases and n-words themselves.

Movement operations in general then turn out to be significantly more restricted than previously suggested in terms of what may legitimately give rise to them. Raising may essentially take place *only* in order to trigger a functional head as a licensor for features of a particular type, it being further suggested that this typically occurs when a functional head is ambiguous or underspecified with regard to the type (or specific selection from a pre-set range) of features that it may potentially licence. No element may raise itself simply for feature-checking where this movement is not also made necessary by the need to trigger some licensing head.

The analysis of n-word checking in French and Italian given here in which neg-features present on n-words may be checked on n-words *in situ* and without any movement to Spec of NegP (as e.g. in 138 above) also provides additional support for claims made earlier that feature-checking is *not* restricted to occurring within Spec-head or head-adjoined positions, but is a relation which may be satisfied between elements occurring within a wider locality. Finally the evidence presented has again indicated that *all* elements of a type such as n-words or wh-phrases carry features in need of checking in addition to any which might be assumed to be present on the checking head, this even where the relevant features carried by the XPs may be classified as +interpretable.

4.0 Closing Remarks

We conclude this chapter with some general remarks relating both to the consideration of n-word licensing presented here and to that of other feature-checking dependencies discussed earlier. Three points in particular can be made, all of which bear on the issues of movement and LF.

The first of these concerns the syntactic encoding of the dependency between a functional head such as a +Q Comp and a wh-phrase which occurs

in situ at Spell-Out/PF. In the past it has often been argued that the necessary dependency between such elements gives rise to post-Spell-Out/S-Structure covert *movement* between the two positions, this resulting in a further syntactic level of LF. Where others have suggested that the dependency is instead encoded via co-indexation and binding (of the wh-phrase by some higher scopal node or by Comp) rather than movement, the charge has been raised against such proposals that they effectively just constitute notational equivalents of movement, and that as the notion of movement would already seem to be necessary given the occurrence of overt pre-S-Structure displacement, the description of dependencies such as those of in situ wh-phrases to a +Q Comp in terms of movement is more appropriate (and also justified by the observation that wh-elements do undergo overt raising in many languages). A strong conclusion of this thesis has been that movement and binding/co-indexation are *not* in fact notational equivalents. We have suggested that the feature-checking relation between a +Q Comp and wh-phrases in situ in Iraqi Arabic, Hindi and other languages, and Negation and n-words in Italian and French is not one of (covert LF) movement and importantly cannot be reduced to movement. These dependencies exhibit properties which are quite different from those of movement relations and cannot be accounted for in any principled way by a movement metaphor. Whereas wh-phrases in Iraqi Arabic and Hindi may unproblematically undergo movement out of tensed clause environments, they may not form a dependency to a +Q Comp from such positions. In Partial Movement structures in German, a wh-phrase may similarly raise out of tensed CPs, but the relation between its (partially-moved) PF position and that of a higher licensing +Q Comp is again subject to strict tense restrictions, indicating that it is not established by means of the same type of syntactic operation as that which relates its PF and base-generated positions. There is thus very strong evidence to argue that *at least* in these instances the dependency between the licensing and PF positions of such elements *must* be encoded in a way that does not involve movement (hence perhaps via binding/co-indexation of the two positions). Binding and movement relations are then essentially quite different in nature and not to be mistaken as pure notational equivalents.

As well as providing strong arguments against any LF movement analysis, the differences between binding and movement dependencies

highlighted here are also problematic for certain recent proposals which have suggested that standard LF-equivalent type chains are already present in PF forms. Brody 1994 argues that chains are formed pre-syntactically in the lexicon via the generation of a 'contentive' element (to receive phonetic interpretation) and a number of co-indexed empty categories. Such chains are then inserted *directly* into LF without there being any prior derivation or movement operations. The position in which the contentive element will actually appear at PF (spelt-out directly from LF) will depend on where it is morphologically licensed to appear, in the case of (for example) wh-phrases this being in Spec of CP/FP in Hungarian, but fully in situ in Chinese. What is important to note here is that no distinction is made amongst the various links of any chain; *no* movement is argued to take place (at all), so the relation of all links to eachother will be the same, whether the contentive appears in the highest position of the chain or in some lower position. In such a system without movement there is hence no obvious way to capture the fact that certain dependency-internal relations appear to be of a different nature. To illustrate this concretely, in wh-in-situ languages and those where a wh-phrase need not occur in a +Q Comp prior to Spell-Out, it is assumed that empty category copies of the contentive wh-phrase will appear in positions higher than the contentive linking it to the +Q Comp, thus in Iraqi Arabic one would have the form in 139 below, where the wh-phrase has been 'scrambled' to the head of an intermediate clause:

(139) * ec_i Mona galet [$sheno_i$ Ali tsawwar [ec_i Ahmed ishtara ec_i]]?
Mona said what Ali thought Ahmed bought
Intended: What did Mona say that Ali thought that Ahmed bought?

139 is unacceptable because the link between the highest empty category (in the +Q Comp) and the contentive *sheno* may not span and cross tense domains, even though the link between the contentive and its lower ecs does span such tense domains and *is* legitimate. This we explained via drawing a crucial distinction between binding and movement relations, suggesting that each type of relation may naturally be subject to a different set of constraints. In a system without movement however, the differing properties of links above and

below a contentive element cannot be captured in any obvious non-stipulative way that does not at the same time admit of the links being established via quite different operations. Thus it seems that two distinct dependency types with different associated properties are indeed called for - binding *and* movement.

Cases like 139 and others seen in chapters 2,3 and 4 are equally difficult to explain for another recent Minimalist-based approach which attempts to dispense with LF as a level of derivation distinct from Spell-Out. In O'Neil and Groat 1995 it is suggested that all chains are formed via movement prior to Spell-Out and that there is no continuation of a derivation past this point. Where an element must establish a checking relation with some position higher than that in which it occurs at Spell-Out/PF, it is claimed that a *phonetically uninterpreted copy* of the contentive will in fact have raised to this position prior to Spell-Out. Arguing that a chain linking all the positions in which the features of an element require checking is hence formed via movement and before Spell-Out, the actual phonetic interpretation of an element in one position or another of the chain will depend on feature-*strength*; for example, if the case features relating to a DP are strong, then the DP will be spelt-out in the case-checking position, if they are weak then the DP will be spelt-out in some lower position. Such an approach again faces similar problems to those in Brody 1994 - it is predicted that all members of a single chain will result from the same process, here from movement rather than co-indexation. Hence in examples like 139, the linking of the contentive to the higher +Q Comp (where it must be presumed its wh-features are checked) should exhibit properties of movement parallel to those constraining the linking of the contentive to lower trace positions. That the two parts of the 'chain' are subject to different constraints appears to be clear indication that they are not the result of a single operation type, and again we have strong arguments for not confusing binding/co-indexation and movement as notational equivalents, both being necessary for the description of certain dependencies.

A second general point to be made concerns the existence of locality constraints on non-movement dependencies. It has been seen that various of the feature-checking relations considered in earlier chapters and also here with n-words appear to be sensitive to strong islands. For a variety of good reasons

we have argued that these wh and neg dependencies cannot however result from any movement applying at LF to raise an XP to its checking head. The fact that such dependencies nevertheless are subject to the CED then provides further support for suggestions in Cinque 1990 and Bresnan 1976 that strong-island sensitivity is not a property solely to be associated with movement, but one which may also constrain other types of non-movement relations, and consequently that the identification of a dependency as being subject to strong islands should not be taken as immediate indication of any (either overt or covert) movement relating two positions.

The third and final point we wish to make has to do with the actual existence in any derivation and model of a level of LF potentially non-isomorphic to Spell-Out. Although some interface level relating tokens of language to general interpretational processes would indeed seem to be conceptually necessary in any linguistic model, it is not clear that such a level *necessarily* results from a continuation of a derivation after the point of Spell-Out via further applications of movement. It could in fact be the case that the linguistic forms produced by the point at which the derivation is given phonetic interpretation will also serve as direct input to interpretation without further distortion. Evidence and arguments presented both in this chapter and the thesis as a whole would seem to indicate that such a view may quite possibly be correct.

Concerning the relation of n-words to Negation in French and Italian examined in this chapter, it was argued that there is strong evidence to suggest that such elements do *not* undergo any form of explicit raising to Negation and essentially are licensed in their base-generated positions. Thus contra Longobardi 1991, n-word phenomena in Italian (and also French) do not in fact provide evidence for assuming a level of derivation (LF) in which elements appear in positions distinct from those they may occupy at Spell-Out. Reflecting back on previous chapters and the case of wh-phrases in particular, in chapter 1 we provided a variety of evidence that wh-phrases occurring *in situ* in a number of unrelated languages similarly cannot be analyzed as undergoing any covert post-Spell-Out raising. In chapter 2 we then presented positive evidence along with theoretical argumentation that wh-phrases in many languages must indeed be licensed by the point of phonetic Spell-Out,

hence in the positions occupied at PF. Hindi, Iraqi Arabic, English, Japanese and German among other languages were all argued to have to conform with such a constraint. Chapter 3 showed that the licensing of wh-phrases via a Partial Movement strategy also needed to be effected prior to Spell-Out. Thus in general no strong positive evidence for assuming any type of covert post-Spell-Out movement operation was found with either wh-phrases or n-words, and in fact much evidence pointed to the conclusion that such elements must actually be licensed by Spell-Out at the very latest.

The assumption that (certain) syntactic constraints may apply to a distinct derivational level of LF rather than to the linguistic forms produced by the point of phonetic Spell-Out has in very large part been motivated by claims of covert movement. If various of the key arguments for the existence of covert movement operations now appear in need of re-analysis, then the justification for assuming LF as a level of derivation beyond Spell-Out would seem to be significantly diminished. Having considered the case of wh-phrases in some detail, facts relating to which have perhaps consistently been presented as the most persuasive evidence for LF movement and LF in general, and having argued that their distribution does not force one to a conclusion of covert movement but in many cases, actually the contrary (i.e. they cannot be analyzed as undergoing any covert raising), there remain a number of other dependencies suggested to give rise to LF movement, such as DP-Case/Agreement checking, verb-movement and QR. In chapter 2 we hinted that at least the former two types of relation might be treated in the same way as wh-in-situ dependencies, via head-binding and without any LF movement, or possibly that the word-ordering facts which have given rise to claims of covert DP and verb-movement (notably in Pollock 1989) might receive a quite different analysis as proposed in Williams 1994, where the relative positions of verbs and Negation is accounted for via lexically-encoded constraints on the type of elements that Negation may adjoin to. The status of QR as a purely syntactic LF operation has been questioned for some time, with little in the way of hard evidence arguing that it *must* be a syntactic rather than a semantic operation.

Hence it may be possible to dispense with the notion of LF as an independent syntactic level formed via operations of covert raising, and suggest

instead that there is no additional level of structure beyond that created by overt movement. Other analysts working within the Chomskyean framework have also recently begun to argue for essentially the same kind of changes in the way the organisation of the syntactic component is viewed, as for example O'Neil & Groat 1995, and Brody 1993 with a single level of syntactic representation and no displacement of elements from their PF positions. The extent to which such programs may be successful in replacing more standard Chomskyean ideas on the non-isomorphism of Spell-Out and LF, and be able to capture those aspects of syntax previously accounted for by assuming a distinct level of LF will only be attested in the years to come. However, it already seems that as many of the stronger arguments for LF are disappearing a different conception of those dependencies claimed to motivate LF is now both called for and indeed already beginning to take shape in various forms.

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